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# Chapter I: Cardio-Thoracic Surgery

## Anatomy

1. How many segments are there in the right lung?
  - a) 10.
  - b) 9.
  - c) 8.
  - d) 7.
2. Ductus arteriosus connects:
  - a) Pulmonary artery to aorta.
  - b) Pulmonary artery to left atrium.
  - c) Pulmonary artery to superior vena cava.
  - d) None of the above.
3. In interpreting a follow-up x-ray to exclude metastatic disease in an elderly man with prostatic cancer, the radiologist reports sclerotic metastasis to all floating rib(s). Floating rib refers to ribs:
  - a) 1
  - b) 2
  - c) 3-7
  - d) 11 and 12
4. An 8-year-old girl with a prominent chest wall deformity that pushes the sternum inward (i.e., in a posterior direction) is asymptomatic, and she participates fully in athletic activities at school. Surgical correction is recommended. What is the most likely cause of the deformity?
  - a) Funnel chest (Pectus excavatum)
  - b) Pectus carinatum (protrusion at the sternum)
  - c) Flail chest
  - d) Cystic hygroma
  - e) Rickets
5. Which of the following statements is false?
  - a) The lungs are derivatives of the primitive foregut
  - b) The left lung has more lobes and segments than the right lung.
  - c) Bronchial arteries arise directly from the thoracic aorta to provide systemic blood supply to the trachea and bronchi.
  - d) Anatomical differences between the right and left main bronchi favor the inhalation of foreign bodies into the right.

## General Chest Trauma

6. All of the following are differential diagnoses for sudden chest pain with shock except:
  - a) Tension pneumothorax
  - b) Massive pulmonary embolism
  - c) Massive myocardial infarction
  - d) Flail chest
7. Open chest wounds are characterized by the following except that they:
  - a) May cause "pendulum respiration".
  - b) May produce "mediastinal flutter".
  - c) May be associated with abdominal injuries.
  - d) Always require thoracotomy for definitive treatment.

- 8. Which of the following is false about chest trauma?**
- a) 80% of chest injuries can be managed non-operatively.
  - b) In the unstable patient, chest X-ray is the 1st investigation of choice.
  - c) A chest drain can be both diagnostic and therapeutic.
  - d) A penetrating chest injury always requires a thoracotomy.
- 9. Which of the following is/are not immediately life threatening injuries?**
- a) Tension pneumothorax.
  - b) Cardiac tamponade.
  - c) Open pneumothorax.
  - d) Liver injury.
- 10. A 30-year-old man is brought to the emergency department in respiratory distress following a shotgun wound to the face. There is a possible cervical spine injury. Which is the best way to gain rapid control of the airway?**
- a) Nasotracheal intubation
  - b) Percutaneous jet ventilation
  - c) Cricothyroidotomy
  - d) Endotracheal intubation
- 11. About chest tubes, all the following statements are true, except:**
- a) To drain a hemopneumothorax the tube is inserted in the fifth intercostal space in mid-axillary line.
  - b) To drain a hemothorax the tube is inserted in the second intercostal space in mid clavicular line.
  - c) Chest tube insertion can be done under local anesthesia.
  - d) A tube that is inserted to drain a hemothorax is removed when the lung is radiologically inflated and the output is less than 120 ml/day.
- 12. All the following are indications for thoracotomy in a trauma victim, except:**
- a) Chest tube drains 400 ml fresh blood at insertion in the pleural cavity.
  - b) Fresh blood drainage that continues at a rate more than 200 ml/ hour.
  - c) Persistent air leak from the chest tube.
  - d) Associated esophageal injury.
- 13. The incorrect statement about blunt injuries of the chest among the following is that they:**
- a) Are always associated with rib fractures.
  - b) Cannot produce pneumothorax.
  - c) May produce surgical emphysema.
- 14. The diagnosis of mediastinal shift depends on:**
- a) Palpation of the trachea.
  - b) Palpation and auscultation of the apex beat.
  - c) Chest x-ray.
  - d) A and C.
- 15. In poly-trauma patient the first priority in the management is to:**
- a) Stop the bleeding.
  - b) Insert IV line.
  - c) Secure the airway.
  - d) Reduction of the fractures.
- 16. All the following thoracic conditions are life-threatening EXCEPT:**
- a) Tension pneumothorax.
  - b) Flail chest
  - c) 500 ml of blood in hemothorax.
  - d) Cardiac tamponade.

- 17. Which is the following thoracic condition is life threatening?**
- a) Minimal pleural effusion
  - b) Lung abscess.
  - c) Simple pneumothorax
  - d) Pericardial tamponade.
- 18. Regarding the insertion of intercostal tube:**
- a) The best site of insertion is the 2<sup>nd</sup> intercostal space mid-clavicular line
  - b) Must be done under general anesthesia.
  - c) Post insertion chest X-ray is mandatory.
  - d) Chest tube of size 12 is suitable for adult patient.
- 19. Regarding chest tube drainage all are true Except:**
- a) Used to drain blood, pus or a pleural effusion
  - b) Inserted in 5th inter-costal space in mid-axillary line
  - c) Inserted over lower border of rib to avoid inter-costal vessels and nerves
  - d) Drainage occurs during expiration when pleural pressure is positive
- 20. Immediate life-threatening injuries that preclude air exchange which can be treated in the field include all of the following except:**
- a) Tension pneumothorax.
  - b) Massive open chest wounds
  - c) Sucking chest wounds
  - d) Tracheal disruption
- 21. Indication of thoracotomy in chest injury, include all the following except:**
- a) Cardiac tamponade
  - b) Uncontrolled pulmonary air leakage
  - c) Perforation of thoracic esophagus
  - d) Blood loss of 50 ml /hour for 2-3 hours via chest tube
- 22. Regarding triage in trauma management, all are true, EXCEPT:**
- a) Sorting patients according to severity of injury and available medical care
  - b) Sorting patients according to age
  - c) If the number of casualties exceeds facilities, critically injured patients most likely to survive are treated first
  - d) The triage system classifies patients into 4 major categories designated by colors
- 23. Because of his involvement in a motor vehicle accident, a 23 year old football player has a chest wall injury. The only abnormal findings on clinical and radiologic examination are a fracture of the left fifth to seventh ribs and a small hemothorax. What should treatment include?**
- a) Insertion of an intercostal drain to avoid pneumothorax
  - b) Thoracotomy to treat a small hemothorax in the left base
  - c) Insertion of a metal plate to fix the fracture
  - d) Administration of analgesic medication
- 24. A rope used to elevate a heavy metal object breaks causing the object to fall on a 55 year old factory worker and producing chest wall injury. Which is true of associated sternal injury?**
- a) It occurs most commonly at the work site.
  - b) It usually involves the body of the sternum.
  - c) It usually is vertical.
  - d) It involves the hemizygous system.

**25. Which of the following statements are false?**

- a) 40 per cent of deaths from trauma are due to torso injury.
- b) Good history and understanding of the mechanism of injury will help predict the type of injury.
- c) Junctional zones help in the overall management
- d) Multi-organ failure is the commonest cause of death in trauma.

**26. Which of the following are not potentially life-threatening injuries?**

- a) Aortic injuries
- b) Tracheobronchial injuries
- c) Myocardial contusion
- d) Pulmonary contusion.

**27. Which of the following statements are untrue?**

- a) All patients with multiple injuries must have a contrast-enhanced computerized scan (CECT) of the abdomen for accurate evaluation.
- b) In a stable patient with intra-abdominal injury, CECT is the 'gold standard' of investigations.
- c) Diagnostic laparoscopy has a screening role in the stable patient
- d) Video-assisted thoracoscopy (VATS) is an accurate method of evaluating diaphragmatic injury.

**28. About etiology of pneumothorax:**

- a) Spontaneous pneumothorax is always secondary to lung disease
- b) Accidental pneumothorax needs a penetrating injury
- c) Mechanical ventilation can result in pneumothorax
- d) Central venous line insertion is not a reported cause

**29. All of the following are radiological features of pneumothorax except:**

- a) Lung collapse on same side
- b) Jet black opacity on same side
- c) Shift of cardiac shadow to same side
- d) Flat diaphragm on same side

**30. The main line of treatment in closed pneumothorax without mediastinal shift is:**

- a) Chest tube
- b) Mechanical ventilation
- c) Needle aspiration
- d) Conservative treatment

**31. The following aid(s) in diagnosis of open pneumothorax**

- a) Cyanosis
- b) Congested non-pulsating neck veins
- c) Harsh whistling sound following trauma
- d) All of the above

**32. For treatment of pneumothorax intercostal tube is inserted in:**

- a) 5<sup>th</sup> space at parasternal line
- b) 2<sup>nd</sup> space at parasternal line
- c) 2<sup>nd</sup> space at midclavicular line
- d) None of the above

**33. Circulatory failure in open pneumothorax is due to the following except:**

- a) Mediastinal flutter
- b) Exaggerated negativity of intrathoracic pressure
- c) Associated great vessel injury
- d) Diminished cardiac function due to respiration failure

- 34. The most life threatening chest wall lesion is:**
- a) Empyema
  - b) Tension pneumothorax
  - c) Flail chest
  - d) Hemothorax
- 35. During the insertion of a subclavian catheter for hyperalimentation in a patient with Crohn's disease the patient became dyspneic with a respiratory rate of 32/min, pulse rate of 120/min. and drop of the B.P. to 80/60mmHg. The appropriate immediate action is:**
- a) Chest X-ray,
  - b) Lung scan.
  - c) Intubation and mechanical ventilation
  - d) Chest tube
- 36. The following statements about spontaneous pneumothorax are true except that it:**
- a) May occur in the absence of any pulmonary lesion.
  - b) Is readily diagnosed clinically.
  - c) Usually resolves spontaneously.
  - d) Usually requires exploratory thoracotomy.
- 37. A 26-year-old man is stabbed in the right intercostal space in the midclavicular line and presents to the emergency department. On examination, subcutaneous emphysema of the right chest wall, absent breath sounds, and a trachea shifted to the left are noted. What is the most likely serious diagnosis?**
- a) Pneumothorax
  - b) Tension pneumothorax
  - c) Massive hemothorax
  - d) Hemopneumothorax
- 38. The best first aid treatment of tension pneumothorax is insertion of a needle in the:**
- a) Second intercostal space midclavicular line.
  - b) Second intercostal space anterior axillary line.
  - c) Fourth intercostal space mid-axillary line.
  - d) Fourth intercostal space mid-clavicular line.
- 39. In tension pneumothorax, the incorrect statement among the following is that:**
- a) There is a constant leak of air from a tear in the lung or a valvular wound in the chest wall.
  - b) Severe respiratory embarrassment is always present.
  - c) Cardiac function is not affected.
  - d) There is displacement of the trachea and mediastinum to the opposite side.

### Pleural effusion

- 40. In a case of pleural effusion, the following statements are correct except that:**
- a) The diagnosis can be made with as little as 100 ml of fluid.
  - b) The trachea may be displaced to the opposite side.
  - c) Aspiration of blood-stained fluid is highly suspicious of bronchogenic carcinoma.
  - d) Open biopsy of the pleura is necessary.
- 41. Pleural fluid with the appearance of "anchovy sauce" pus is characteristic of**
- a) Staph. Aureus.
  - b) Ecchinococcus.
  - c) Entamoeba histolytica.
  - d) Hemothorax.

42. In evaluating the chest x-ray findings in a 60 year old man with pleural effusion, which of the following constitutes an abnormal finding of the pleural cavity?
- a) Communication between the right and left pleural cavities
  - b) Intersection of the twelfth rib posteriorly
  - c) Existence of both a parietal and visceral layer in the upper parts
  - d) Existence of different attachments on the right and left sides

### Hemothorax

43. All are causes of hemothorax except:
- a) Trauma
  - b) Bronchogenic carcinoma
  - c) Rupture of emphysematous bulla
  - d) Anticoagulant therapy
44. About treatment of hemothorax all are correct except:
- a) There is no need to decorticate at all
  - b) Resuscitation and stabilization of general condition has the priority
  - c) Encysted hemothorax is an indication of thoracotomy
  - d) Fibrinolysis may prevent clotting giving chance to conservation
45. As regards pathology of hemothorax all are correct except:
- a) Blood always coagulates completely
  - b) Blood is defibrinated by continuous diaphragmatic motion
  - c) Hemothorax can result in large hydrothorax by transudation
  - d) It can be complicated by fibrothorax or empyema
46. Which of the following statements about traumatic hemothorax is untrue?
- a) May absorb spontaneously.
  - b) May be associated with signs of internal hemorrhage.
  - c) Cannot be diagnosed radiologically with less than 500 ml of blood.
  - d) Should be treated by repeated needle aspirations.
47. A 35-years-old male sustained a gunshot wound of the left chest in the mid-axillary line. On admission, his BP was 90/60 mmHg, pulse rate 120/min and respiratory rate 30/min. After IV infusion of two liters of lactated Ringer's solution his CVP was 30 cm but his hypotension continued. The chest was clear and the breath sounds were normal. He proved to be suffering from:
- a) Acute heart failure.
  - b) Myocardial infarction.
  - c) Cardiac tamponade.
  - d) Flail chest.
48. The best first aid treatment of traumatic cardiac tamponade is:
- a) Digitalis.
  - b) Oxygen.
  - c) Pericardiocentesis
  - d) Thoracotomy and deal with the cause
49. The best treatment of hemothorax 500 cc or more of blood in the pleural space is:
- a) Closed thoracotomy and tube drainage.
  - b) Thoracotomy and ligation of the bleeding vessels.
  - c) Wait and watch.
  - d) Transfusion of fresh blood.

- 50. Regarding the diagnosis and treatment of cardiac tamponade all are true, except:**
- a) The condition only develops in cases of penetrating chest trauma.
  - b) Characterized by triad of distended neck veins, muffled heart sounds and hypotension.
  - c) Immediate temporary treatment consists of pericardiocentesis.
  - d) Thoracotomy with pericardiotomy and cardiac repair may be required.
- 51. A 20 year old patient was subjected to stab wound in the chest, presented to the ER, ON examination: pulse was 110 bpm, BP was 75/40, with engorged neck veins and bilateral equal breath sounds, mostly this is:**
- a) Cardiac tamponade
  - b) Open pneumothorax
  - c) Tension pneumothorax
  - d) Simple pneumothorax
- 52. In treatment of hemothorax, a chest tube is inserted in:**
- a) 2<sup>nd</sup> intercostal space in midclavicular line
  - b) 5<sup>th</sup> intercostal space mid axillary line
  - c) 8<sup>th</sup> intercostal space anterior axillary line
  - d) 8<sup>th</sup> intercostal space posterior axillary line
- 53. A 28 year old man is involved in a road traffic accident. On arrival in the emergency department he is hypotensive. On examination he has an elevated jugular venous pulse and auscultation of the heart reveals muffled heart sounds. Which of the following is the most likely diagnosis?**
- a) Myocardial contusion
  - b) Cardiac tamponade
  - c) Hemothorax
  - d) Ventricular septal defect

## Rib Fracture

- 54. In Flail chest limitation of movement of flail part is done to:**
- a) Decrease risk of injury to intercostal structure
  - b) Prevent paradoxical movement and pendulum respiration
  - c) Prevent mediastinal flutter
  - d) All of the above
- 55. A trauma victim has dyspnea and a large flail segment of his chest wall due to multiple rib fractures. All the following statements are true, except:**
- a) Dyspnea may be due to paradoxical movement of the chest wall.
  - b) Side to side movement of the mediastinum impairs venous return.
  - c) Pulmonary contusion is commonly associated with flail chest.
  - d) Definitive treatment is by traction on the flail segment until the fractured ribs heal.
- 56. The following statements about fractures of the ribs are true except that they:**
- a) May be due to direct or indirect trauma.
  - b) Never occur spontaneously.
  - c) Cause sharp pain in the chest wall.
  - d) May cause hemothorax, pneumothorax or surgical emphysema.



- 57. Concerning flail chest wall, the following statements are true except that it:**
- a) Is due to double fractures of several ribs.
  - b) Produces paradoxical movement during respiration
  - c) Is rarely complicated by contusion of the lung.
  - d) May require frequent blood gas analysis.
- 58. A 70 year old male with chronic obstructive lung disease sustained fractures of the left 7th, 8th and 9th ribs following a fall. The chest x-ray was otherwise normal. Proper management should include all the following except:**
- a) Hospitalization.
  - b) Intercostal nerve block.
  - c) Postural drainage.
  - d) Strapping the chest with adhesive plaster.
- 59. A young male was brought to the emergency room after a road traffic accident. Examination revealed stable vital signs despite multiple right rib fractures and paradoxical movements of the right side of the chest. The proper treatment consists of:**
- a) Strapping of the right chest with adhesive plaster.
  - b) Stabilization by towel clips.
  - c) Operative stabilization of the chest wall.
  - d) Nasotracheal intubation and mechanical ventilation with positive end expiratory pressure (PEEP).
- 60. What is not true of flail chest:**
- a) Paradoxical chest movement
  - b) right to left shunt with systemic desaturation
  - c) Can occur when multiple ribs are fractured at one place
  - d) May need endotracheal intubation and positive pressure ventilation
- 61. Regarding flail chest:**
- a) Normal chest movement.
  - b) Can occur when multiple ribs are fractured at one place.
  - c) May need endotracheal intubation and positive pressure ventilation.
  - d) Chest wall stabilization never done for the patient.
- 62. Regarding fracture ribs all are true, EXCEPT:**
- a) Mostly due to blunt chest trauma.
  - b) Fracture of the first rib is not associated with major chest or abdominal injuries.
  - c) Main line of treatment is by pain control and observation.
  - d) It may be associated with splenic injury.

## Empyema

- 63. All of the following are indications of open surgical drainage of pus in acute empyema, except:**
- a) thick pus
  - b) Rapid recollections of pus
  - c) Streptococcal empyema
  - d) Extensive conditions

- 64. As regards Empyema necessitans all are correct, except:**
- a) Is an encysted empyema
  - b) Gives expansile impulse on cough
  - c) Can perforate skin leading to skin sinus
  - d) Is a subcutaneous abscess communicated with empyemic pleura
- 65. The following are signs of chronic empyema, except:**
- a) Paroxysmal fever and chills
  - b) Flattening of diaphragm
  - c) Sinus in chest wall discharging pus
  - d) Scoliosis
- 66. All of the following are complications of chronic empyema, except:**
- a) Empyema necessitans
  - b) Amyloidosis
  - c) Mesothelioma
  - d) Toxic arthritis
- 67. Which one of the following factors predispose to chronic empyema:**
- a) Pulmonary tuberculosis
  - b) Inadequate drainage
  - c) Bronchogenic carcinoma
  - d) All of the above
- 68. The primary treatment of Tuberculous empyema is:**
- a) Systemic chemotherapy.
  - b) Aspiration.
  - c) Closed tube drainage.
  - d) Open drainage.
- 69. Pulmonary tuberculosis, the incorrect statement among the following is that:**
- a) The primary focus occurs in the periphery of the lung.
  - b) The hilar nodes are often enlarged.
  - c) Fibrosis is rare in the late stages of the disease.
  - d) Healing rarely occurs under conservative treatment.
- 70. The most common cause of empyema is:**
- a) Pneumonic process in the underlying lung
  - b) Rupture of an emphysematous bulla
  - c) Penetrating injury of the chest
  - d) Subphrenic abscess
- 71. The management of empyema with 50 cc thin pus is:**
- a) Aspiration.
  - b) Rib resection.
  - c) Decortications.
  - d) Thoracotomy.
- 72. All of the following is true regarding empyema thoracis, Except:**
- a) Can occur during the course of staphylococcal pneumonia
  - b) Should be drained immediately by rib resection and under-water seal drain
  - c) Is preceded usually by serous effusion.
  - d) If due to pneumococcal infection contains a great deal of fibrin.

## ARDS

- 73. A 36-year-old man is crossing a bridge when he is suddenly swept by a torrent into the river. After rescue and resuscitation, he is admitted to the ICU of the local hospital with adult respiratory distress syndrome (ARDS). Which of the following associated features would suggest a diagnosis of ARDS?**
- a) High lung compliance
  - b) Activation of surfactant
  - c) Consolidation confined to the lingula
  - d) Interstitial edema with normal pulmonary capillary wedge pressure (PCWP)

- 74. Which of the following MIGHT indicate respiratory distress?**
- a) Confusion.
  - b) Tachypnea.
  - c) Use of sternocleidomastoid during respiration.
  - d) All of the above.
- 75. Adult respiratory distress syndrome is characterized by all of the following, EXCEPT:**
- a) Respond well to administration of oxygen through oxygen mask
  - b) Caused by major trauma, extensive burn and severe sepsis
  - c) Characterized by defective ventilation, perfusion and diffusion
  - d) Chest x ray show opacities of the lung
- 76. Regarding acute respiratory syndrome, all are true, except**
- a) Caused by direct or indirect lung injury e.g.: sepsis, or trauma
  - b) The main pathological feature is diffuse alveolar damage
  - c) Bilateral infiltrate presents on chest x ray
  - d) Hypoxemia often response easily to respiratory support

### Postoperative pulmonary complications

- 77. Which of the following is not a cause of acute shortness of breath on the 1st postoperative day?**
- a) Atelectasis.
  - b) Chest infection.
  - c) Pulmonary embolism.
  - d) Pneumothorax.
- 78. The differential diagnosis of postoperative pulmonary embolism includes all the following, except:**
- a) Pneumonia.
  - b) Paralytic ileus.
  - c) Congestive heart failure.
  - d) Myocardial infarction (MI).
- 79. About the investigations for suspected pulmonary thromboembolism, all the following statements are true, except:**
- a) A normal D-dimer level excludes pulmonary thromboembolism.
  - b) A normal chest X-ray cannot exclude pulmonary embolism.
  - c) CT pulmonary angiography is the most popular imaging study.
  - d) Ventilation-perfusion isotope scan shows lung areas that are perfused but not ventilated.
- 80. About postoperative atelectasis, all the following are true, except:**
- a) It usually presents by hemoptysis.
  - b) Upper abdominal incisions cause more atelectasis than lower abdominal incisions.
  - c) Atelectasis is one of the causes of postoperative fever.
  - d) Dehydration is a predisposing factor.
- 81. The causes of postoperative fever include the following, except:**
- a) Leakage from an intestinal anastomosis.
  - b) Wound infection.
  - c) Paralytic ileus.
  - d) Deep vein thrombosis.

- 82. The most serious post-operative chest complications is:**
- a) Lung abscess.
  - b) Pulmonary atelectasis.
  - c) Bronchopneumonia,
  - d) Pulmonary embolism.
- 83. A 50 year old female underwent cholecystectomy. On the seventh post- operative day, she developed severe epigastric and chest pain with sweating and shortness of breath Examination revealed mild fever and tenderness of the right calf. The most likely diagnosis is:**
- a) Myocardial infarction.
  - b) Basal pneumonia.
  - c) Pulmonary atelectasis.
  - d) Pulmonary embolism.
- 84. The signs of post-operative pulmonary atelectasis include the following, except:**
- a) Fever.
  - b) Bradycardia.
  - c) Displacement of the apex towards the side of collapse.
  - d) Diminished breath sounds on auscultation.
- 85. X-ray signs of post-operative pulmonary collapse include the following, except:**
- a) Wedge shaped opacity in the lower lung field
  - b) Elevation of the diaphragm.
  - c) Approximation of the ribs on the affected side.
  - d) Prominent hilar shadows.
- 86. The most accurate investigation in the diagnosis of pulmonary embolism is:**
- a) Plain x-ray of the chest.
  - b) Examination of the sputum for blood.
  - c) Pulmonary arteriography.
  - d) Phlebography of the deep veins of the leg.
- 87. Regarding postoperative atelectasis all are true, Except:**
- a) Presents with hypoxia within 48 hours after operation.
  - b) Often accompanied by tachycardia and tachypnea.
  - c) More often seen in those patients with pre-existing lung disease.
  - d) More often with lower rather than upper abdominal incisions.

### Cardiac Arrest

- 88. The following statements about cardiac arrest are true except that it:**
- a) May be due to cardiac asystole or to ventricular fibrillation.
  - b) Causes irreversible brain damage after three minutes.
  - c) Is suspected from absence of carotid pulse.
  - d) Should be treated at once by open cardiac massage.
- 89. The first step in cardiac resuscitation is:**
- a) Cardiac massage.
  - b) Intravenous infusion.
  - c) Cardiotonic drugs.
  - d) Ventilation.
- 90. Factors recognized to precipitate cardiac arrest include:**
- a) Hypoxia.
  - b) Use of inotropic drugs
  - c) Diphtheritic infection.
  - d) All of the above.

## Mediastinum

- 91. The anterior mediastinum is best demarcated from the posterior mediastinum by the:**
- a) Sympathetic chain
  - b) Dorsal surface of trachea.
  - c) Posterior wall of esophagus.
  - d) Posterior pericardium.
- 92. Apart from bronchogenic carcinoma, the most common cause of superior vena cava obstruction is:**
- a) Neurogenic neoplasms.
  - b) Malignant thymoma.
  - c) Thyroid cancer
  - d) Lymphoma.
- 93. Anterior mediastinal tumors include:**
- a) Lymphomas.
  - b) Thymic tumors.
  - c) Ganglioneuroma.
  - d) Bronchogenic cyst
- 94. In the evaluation of a 64-year-old woman with fluctuating neurological signs of ptosis, eleventh and twelfth cranial nerve palsy, and generalized extremity weakness are noted. Edrophonium (Tensilon) gave intravenously results in clinical improvement. A computed tomography (CT) scan shows a lesion in the anterior mediastinum, and a biopsy confirms the presence of a thymoma. She should undergo which of the following?**
- a) High-dose steroid administration
  - b) Irradiation of the anterior mediastinum
  - c) Calcium administration
  - d) Thymectomy
- 95. A 32-year-old male janitor complains of a swollen face during the past week. A CT scan reveals an expanding hematoma in the superior mediastinum. Mediastinal tamponade is most likely to manifest as which of the following?**
- a) Hypertension
  - b) Increased pulse pressure during inspiration
  - c) Paresis of the right arm
  - d) Venous congestion in the upper extremity
- 96. After returning from vacation, a 67-year-old retired judge is admitted to the emergency department with severe dyspnea. On examination, an inspiratory stridor, ecchymosis in his neck, and swelling of soft tissue and veins in his face and upper extremity veins are evident. The CT scan shows an expanding superior mediastinal hematoma. What is the most common source of mediastinal hemorrhage?**
- a) Parotid gland surgery
  - b) Mediastinal tumor
  - c) Trauma
  - d) Hemorrhagic diathesis

**97. A 22-year-old female student was found to have an anterior mediastinal mass on a chest x-ray for a persistent cough. What finding is true regarding the thymus gland?**

- a) It arises from the first branchial arch.
- b) It is located in the posterior mediastinum.
- c) It results in severe pneumococcal infection when removed in adults.
- d) It is usually excised through an incision along the anterior branch of the sternomastoid.

**98. About bronchogenic carcinoma all are correct, except:**

- a) Common in old smoker males
- b) Can present by any chest symptom
- c) Usually inoperable at diagnosis
- d) 5 years old survival rate is 60%

### Bronchogenic Carcinoma

**99. Concerning bronchogenic carcinoma, the incorrect statement is that it :**

- a) Is most often an oat-cell carcinoma.
- b) Commonly manifests itself by symptoms of chest infection.
- c) May secrete hormone-like substances.
- d) May produce degenerative changes in the nervous system.

**100. The most common pulmonary tumor is:**

- a) Bronchial adenoma.
- b) Pulmonary hamartoma.
- c) Squamous-cell carcinoma.
- d) Oat-cell carcinoma.

**101. Which of the following statements is untrue concerning oat-cell carcinoma of the lung?**

- a) Composed of undifferentiated small cells with very scanty stroma.
- b) Usually occurs near the hilum.
- c) Is the most malignant pulmonary tumor.
- d) May be treated by radical resection.

**102. Which of the following statements about primary lung cancer is false?**

- a) Lifetime cigarette smoking is a major risk factor.
- b) Compared with non-small-cell cancer, small-cell lung cancer is less common and metastasizes early.
- c) It is the most common 2nd tumor worldwide.
- d) Late survival has a direct relationship with the tumor stage at the time of treatment.

**103. Which of the following statements about lung cancer is true?**

- a) A chest x-ray yields very useful information about primary lung cancer.
- b) Sputum cytology has high sensitivity.
- c) PET has high sensitivity for bronchial carcinoma.
- d) CT is only useful for guided FNAC.

- 104. A 54-year-old construction worker has smoked two packs of cigarettes daily for the past 25 years. He notes swelling in his upper extremity and face, along with dilated veins in this region. A computerized tomography (CT) scan and venogram of the neck are performed. What is the most likely cause of the obstruction?**
- a) Aortic aneurysm
  - b) Metastasis
  - c) Bronchogenic carcinoma
  - d) Chronic fibrosing mediastinitis
- 105. What is the most common cancer in the world?**
- a) Breast.
  - b) Thyroid.
  - c) Lung.
  - d) Liver.
- 106. About bronchial carcinoma all the following statement are true, except:**
- a) It more frequently affects males than females.
  - b) Persistent cough is the commonest symptom.
  - c) Bronchoscopy and biopsy is indicated for all suspected cases.
  - d) It predisposes to pneumonia.
- 107. The paraneoplastic syndromes of bronchial cancer include all the following, except:**
- a) Cushing-like syndrome due to ACTH secretion.
  - b) Water retention due to ADH secretion.
  - c) Zollinger Ellison syndrome due to gastrin secretion.
  - d) Neuromyopathies.
- 108. What is the most common paraneoplastic syndrome occurring in patients with malignant lung lesion, especially small cell carcinoma?**
- a) Hypertrophic pulmonary osteoarthropathy.
  - b) Hyperpigmentation.
  - c) Spider nevi.
  - d) None of the above.
- 109. About Pancoast's tumor, all the following are true, except:**
- a) It is the commonest form of bronchial cancer.
  - b) The tumor is present in the apex of the lung.
  - c) It may cause Horner's syndrome.
  - d) It may erode the first rib.
- 110. A 50 year old male with chronic cough was found to have a 2cm coin lesion in the right upper lobe on chest x-ray. His pulmonary function tests were normal. The proper management is:**
- a) Percutaneous needle biopsy.
  - b) Thoracotomy and excision biopsy.
  - c) Follow-up with repeated chest X- rays.
  - d) Anti-tuberculous therapy.
- 111. A 60 year old male complaining of pain and tingling in the left upper limb was found to have drooping of the left eyelid with constriction of the pupil. These findings are highly suggestive of:**
- a) Cervical spondylosis.
  - b) Syringomyelia.
  - c) Spinal tumor.
  - d) Pancoast's tumor.
- 112. The endocrine syndromes frequently associated with bronchogenic carcinoma include the following, except:**
- a) Cushing's syndrome and hypercalcemia.
  - b) Water retention.
  - c) Thyrotoxicosis.
  - d) None of the above.

**113. Pancoast's tumor invades:**

- a) Vertebrae.
- b) Sympathetic chain
- c) Thoracic duct
- d) All of the above.

**114. A 54-year-old manager of a bank is noted to have a solitary 1.5 cm nodule on a routine chest x-ray. He is asymptomatic. The most suggestive feature of malignancy would be the finding of which of the following?**

- a) Indistinct margins
- b) A lesion in the left lobe
- c) A lesion in the lingual lobe
- d) A laminated calcium pattern

**115. An asymptomatic 56-year-old man is found on routine chest x-ray to have a 2 cm nodule central tumor in the upper lobe of the right lung. The lesion is not calcified. No previous x-rays exist. What is the most appropriate initial step toward making a diagnosis?**

- a) Bone scan
- b) Thoracotomy
- c) Mediastinoscopy
- d) Fiberoptic bronchoscopy

**116. At the age of 46, an accountant has developed hoarseness due to an inoperable cancer of the left upper lung lobe. He has smoked heavily since the age of 14. Which of the following features of cancer of the lung indicates distant spread?**

- a) Hypercalcemia
- b) Cushing-like syndrome
- c) Gynecomastia
- d) Brachial plexus lesion (Pancoast's syndrome)

**117. A 72-year-old retired miner complains of progressive dyspnea, chest pain, and a 20 lb weight loss. He is a nonsmoker. Examination reveals clubbing of the fingers. CT scan shows a pleural effusion and nodular, irregular thickening of the right lung and involvement of the celiac lymph nodes. Cytology, repeated on several occasions, is not helpful. Which test will most likely establish the diagnosis?**

- a) Laparoscopy
- b) Repeat cytology
- c) Bronchoscopy
- d) Open pleural biopsy

**118. Which one of these statements is false?**

- a) Lifetime cigarette smoking, quantified as 'pack-years', is a major risk factor for bronchial carcinoma.
- b) Compared with non-small-cell cancer, small-cell lung cancer, formerly known as oat cell cancer, is less common, metastasises early and is less amenable to surgery.
- c) Finger clubbing and hypertrophic pulmonary osteoarthropathy, sometimes described as clinical features of lung cancer, are usually incidental findings and not due to primary lung cancer.
- d) The appropriate treatment strategy is dependent on tumour type, tumour stage, and the general fitness and lung function of the patient

**119. Which one of these statements is true?**

- a) Chest radiograph yields very useful information about primary lung cancer.
- b) Computed tomography (CT) is only useful for guiding fine-needle aspiration.
- c) Positron emission tomography (PET) has high specificity for bronchial carcinoma.
- d) Sputum cytology has a high sensitivity.



## Cardiac Operations

**120. What is the most common cause of mitral stenosis?**

- a) Congenital.
- b) Coronary artery disease.
- c) Bacterial endocarditis.
- d) Rheumatic heart disease.

**121. About open-heart surgery with the use of a heart- lung machine, all the following statements are true, except:**

- a) Good exposure is obtained by an antero-lateral thoracotomy.
- b) A cardioplegic solution that contains potassium is used to slow down cardiac metabolism.
- c) Cooling is done to slow down cardiac metabolism.
- d) The patient must be heparinized.

**122. In chest surgery, which is true regarding a thoraco-abdominal incision?**

- a) It should be used for most abdominal and thoracic procedures.
- b) It enters the third to fifth intercostal space.
- c) It causes less postoperative pain.
- d) It allows division of the costal margin and the diaphragm.

**123. Which of the following statements is false?**

- a) Cardiopulmonary bypass has brought about remarkable progress in cardiac surgery.
- b) The cardiopulmonary bypass circuit consists of a venous reservoir, oxygenator, heat exchanger, filter and roller pump.
- c) Cardiopulmonary bypass is not used outside cardiac surgery.
- d) Patients require full-dose heparin with the use of cardiopulmonary bypass.

**124. Which of these is not a risk factor for ischemic heart disease?**

- a) Smoking
- b) Obesity
- c) Female gender.
- d) Advancing age

**125. Which of the following statements is false?**

- a) Aortic stenosis is associated with a risk of sudden death related to the severity of stenosis.
- b) Rheumatic heart disease can cause both aortic stenosis and aortic regurgitation.
- c) Distinguishing between aortic stenosis and chronic aortic regurgitation is usually difficult on clinical grounds alone.
- d) None of the above.

**126. Which of the following statements is false?**

- a) Cyanotic heart diseases are often more complex compared with acyanotic diseases, and result from a right-to-left shunt or a pulmonary circulation that runs in parallel to systemic circulation, or abnormal connection of blood vessels to the heart
- b) Acyanotic heart diseases are more common than cyanotic heart diseases, and usually cause heart failure in infancy.
- c) The coexistence of ventricular septal defect, overriding aorta, pulmonary stenosis and right ventricular hypertrophy is referred to as Fallot's tetralogy.
- d) Four types of atrial septal defects are perimembranous, muscular, atrioventricular and subarterial.]

**127. Which of the following choices best characterizes right-to-left-shunts?**

- a) Obstructive lesions
- b) Decreased pulmonary blood flow
- c) Increased pulmonary blood flow
- d) Increased ventricular work

**128. With regard to increased pulmonary blood flow (let-to-right shunts), which of the following statements is true?**

- a) A shunt becomes physiologically important when pulmonary blood flow is five times as great as systemic flow.
- b) High pulmonary artery pressures preclude surgical correction of the defect
- c) Delivery of 1 00 % oxygen to the patient during transesophageal echocardiography may provide crucial information for determining whether the patient is an operative candidate
- d) Increased fixed pulmonary vascular resistance precludes surgical correction of the defect

**129. Resolution of congestive heart failure without surgical correction in a patient who has had a large left-to-right shunt:**

- a) Indicates increased pulmonary vascular resistance
- b) Is a sign of increased left-to-right shunting
- c) Is a sign of unchanged left-to-right shunting
- d) Indicates reversible pulmonary vascular resistance ~

**130. With regard to left obstructive congenital heart lesions, which of the following statements is true?**

- a) The most common obstructive lesions are pulmonary valve stenosis, aortic valve stenosis, & coarctation of the aorta
- b) Obstructive congenital heart lesions produce systolic pressure overloading & concentric hypertrophy
- c) Concentric hypertrophy produces marked cardiac enlargement, which can be detected by physical examination & routine chest radiography
- d) A& B

**131. Lesions that produce large left-to-right shunts during the newborn period are:**

- a) Multiple muscular VSDs: "Swiss cheese"
- b) Primum ASD
- c) Dextro-transposition of the great arteries
- d) Secundum ASD

**132. With regard to right-to-left shunts, which of the following statements is true?**

- a) Polycythemia may lead to venous thrombosis & in patients with a long standing right-to-left shunt, to systemic emboli
- b) The degree of cyanosis depends on both oxygen saturation & hemoglobin concentration
- c) Cardiac catheterization is mandatory to determine the degree of pulmonary stenosis & the suitability of the patient for surgery
- d) An oxygen saturation of 75 % is life-threatening & require immediate surgical treatment if it cannot be increased

**133. Which of the following best characterizes the tetralogy of Fallot?**

- a) Egg-shaped heart
- b) Left atrial & ventricular enlargement
- c) Figure of 8 abnormality of the pulmonary venous (Snowman) drainage
- d) Boot-shaped heart (Coeur en sabot)

**134. With regard to the tetralogy of Fallot, which of the following statements is true?**

- a) Cyanosis occurs because of the septal defect associated with the right ventricular hypertrophy
- b) A right-to-left shunt occurs because of the septal defect associated with obstruction of the right ventricular outflow tract
- c) Patients often become anemic
- d) Patients learn to squat because it lowers their pulmonary artery pressure

**135. The treatment strategies for repair of the tetralogy Fallot during infancy are:**

- a) Always a complete repair
- b) Staged approach with palliative surgery first followed by complete repair
- c) Selective use of palliative surgery in early cyanosis & when small pulmonary arteries are present
- d) Staged approach with balloon valvuloplasty first followed by complete repair

**136. Which of the following statements is true regarding systemic-to- pulmonary artery shunts?**

- a) They join one of the great vessels with the pulmonary vein, either directly or by means of a prosthetic graft
- b) They are used to decrease pulmonary blood flow in patients with the tetralogy of Fallot
- c) Based on shunt size, a systemic-to-pulmonary shunt may widen the pulse pressure (after shunt construction), & an increase in diastolic runoff will promote coronary flow insufficiency
- d) A successful shunt may make definitive surgery unnecessary

**137. Eisenmenger syndrome represents:**

- a) A classic conduction defect resulting from inappropriate repair of a VSD
- b) A condition that can occur with VSD, PDA, AV canal defects, transposition of the great arteries, & truncus arteriosus & rarely in association with a large ASD
- c) A condition in which the increased pulmonary vascular resistance from the left-to-right shunt eventually exceeds systemic vascular resistance & causes reversal to a right-to left shunt & cyanosis
- d) B&C

## Ischemic Heart Disease

**138. The risk factor for the development of coronary artery disease (CAD) is?**

- a) Hypertension.
- b) Hyperlipidemia.
- c) Diabetes.
- d) All of the above.

**139. Left main coronary artery stenosis more than 50% is best treated by?**

- a) Medical treatment
- b) Angioplasty and stenting.
- c) CABG.
- d) All of the above.

**140. A more complete and prolonged relief of angina in patients with multiple- vessel disease is achieved by:**

- a) CABG.
- b) Triple therapy medical treatment.
- c) Coronary artery stenting.
- d) None of the above.

**141. About coronary artery bypass graft surgery, all the following statements are true, except:**

- a) Preoperative coronary angiography is essential.
- b) It is superior to angioplasty + stenting in cases of triple-vessel disease.
- c) The operation is done through a median sternotomy.
- d) Left internal mammary artery anastomosis to the left anterior descending artery provides less patency rates than a saphenous graft.

**142. The most important preoperative study in evaluating a patient for coronary bypass grafting is:**

- a) Cardiac catheterization.
- b) Electrocardiogram
- c) Exercise thallium scan.
- d) Positron emission tomographic scan.

### Aortic Dissection

**143. Which one of these statements is false?**

- a) Common causes of thoracic aortic aneurysm are atherosclerosis and connective tissue disorders.
- b) Indication for surgery in thoracic aneurysm depends on the part of the thoracic aorta involved.
- c) Paraplegia, renal failure and ventricular dysfunction are some complications of descending aneurysm repair.
- d) Stanford types A and B aortic dissection require emergency repair.

**144. Which one is true for Stanford classification of dissection of the aorta?**

- a) Type A- starts in the ascending aorta.
- b) Type A- starts in the arch of the aorta.
- c) Type A- starts in the descending aorta.
- d) Type A spares the ascending aorta.

**145. What is the most common symptom in patients with acute type A aortic dissection?**

- a) Dyspnea.
- b) Syncope.
- c) Palpitations.
- d) Severe chest pain.

**146. What is the best modality of treatment in uncomplicated descending aortic dissection (Type B Stanford)?**

- a) Medical treatment.
- b) Endovascular treatment.
- c) Immediate surgical intervention
- d) None of the above.

**147. Which one of the following is a complication of type A aortic dissection?**

- a) Aortic valve incompetence.
- b) Myocardial infarction.
- c) Pericardial effusion and tamponade.
- d) All of the above.

### Cardiac Tumors

**148. What is the most common cardiac tumor?**

- a) Myxoma.
- b) Fibroma ..
- c) Angiosarcoma.
- d) Desmoid tumor.

**149. Cardiac myxomas are most commonly found in:**

- a) Left atrium.
- b) Right atrium.
- c) Left ventricle.
- d) Right ventricle.

### Miscellaneous

**150. With regard to coarctation of the aorta, which of the following statements is correct?**

- a) The lesion involves narrowing of the descending aorta just distal to the left subclavian artery and is surgically correctable.
- b) Early left ventricular failure requiring surgical correction is common when coarctation is present in a neonate.
- c) Late recurrence of the coarctation does not occur provided that the appropriate repair technique is used.
- d) Arm hypertension, decreased or absent leg pulses, and a systolic murmur over the left hemithorax are the typical physical findings early in infancy.

**151. Which of the following statements regarding extracorporeal membrane oxygenation (ECMO) is true?**

- a) The survival rate is less than 50% when used for neonatal respiratory support.
- b) Survival is equal in adults and children.
- c) Survival with cardiac ECMO is greater than that with respiratory ECMO.
- d) The overall survival rate is 40%.

**152. All of the following are complications of prolonged extracorporeal circulation except:**

- a) Postoperative bleeding
- b) Pancreatitis
- c) Hepatic insufficiency
- d) Hypertension

**153. After aortic valve replacement for calcific aortic stenosis, a patient experiences seizures. All of the following are the most likely causes except:**

- a) Air embolism
- b) Calcium emboli
- c) Extracorporeal circulation
- d) Emboli from a left atrial thrombus

**154. Indications for coronary artery bypass graft (CAB G) surgery include all of the following except:**

- a) Severe triple-vessel occlusive disease
- b) Stenosis of the left main coronary artery
- c) Persistent angina and changes on the ECG following percutaneous coronary stenting
- d) Acute myocardial infarction

**155. The following organisms cause a severe type of empyema complicated by dense adhesions:**

- a) Staph                      b) Streptococci                      c) Pneumococci                      d) E.Coli

**156. The most common anterior mediastinal mass is:**

- a) Retrosternal tumor                      c) Dermoid cyst  
b) Thymic tumor                      d) Teratoma

**157. A large mediastinal mass was discovered on routine P.A chest X-ray. The next step is:**

- a) Lateral chest x-ray.                      c) Mediastinoscopy.  
b) Bronchoscopy,                      d) CT scanning.

**158. Surgery is indicated in the initial management of lung cancer in the presence of which of the following?**

- a) Hypercalcemia                      c) Superior vena cava syndrome  
b) Vocal cord paralysis                      d) Small-cell anaplastic carcinoma

**159. Pulmonary embolism can cause any of the following, except:**

- a) Postoperative fever.                      c) Postoperative dyspnea.  
b) Postoperative tachycardia.                      d) None of the above

**160. Four years previously, a 56 year old fisherman underwent thyroidectomy for cancer of the thyroid gland. He is now noted to have a single 4 cm lesion in the upper lobe of the left lung. There is no other evidence of disease, and he is in excellent health. Endobronchial biopsy confirms that the lesion is malignant but the organ of origin cannot be determined. What should he be given?**

- a) Radiotherapy  
b) Combination chemotherapy  
c) Attempted curative lung resection  
d) Exploration of the neck for thyroid recurrence

**161. The treatment of choice in flail chest is:**

- a) Tracheostomy.  
b) Intercostal nerve block.  
c) Adhesive strapping.  
d) Elevation of broken ribs with towel clips.

**162. Following a vacation in Florida, a 43-year-old man notes shortness of breath. He is a non-smoker. His wife points out that his face has become slightly swollen. On examination, his blood pressure is normal. His pupils are equal and respond to light. Dilated veins are noted around the shoulders, upper chest, and face. An x-ray of the chest reveals opacity in the superior mediastinum. What is the most likely diagnosis?**

- a) Thymoma  
b) Neurogenic tumor  
c) Lymphoma  
d) Teratodermoid tumor

## Chapter II : Hernia

1. Which of the following is not a predisposing factor for a hernia?
  - a) Chronic obstructive pulmonary disease
  - b) Obesity
  - c) Urinary stones
  - d) Pregnancy
2. Which of the following are more common in multiparous women?
  - a) Indirect inguinal hernia
  - b) Lumbar hernia
  - c) Umbilical
  - d) Direct inguinal hernia
3. Which of the following is not a complication of an inguinal hernia?
  - a) Irreducibility
  - b) Strangulation
  - c) Obstruction
  - d) Bleeding.
4. Which of the following is not true in relation to strangulated hernias?
  - a) A normal hernia can strangulate at any time.
  - b) This is more common in femoral hernia.
  - c) They can be reliably excluded in irreducible hernias on clinical examination.
  - d) They require urgent surgery.
5. Regarding the anatomy of the inguinal canal, which of the following are true?
  - a) The inferior epigastric vessels lie posterior and lateral to the internal ring.
  - b) The inguinal canal is about 10 cm long and is directed downwards, medially and forwards.
  - c) In males, the normal constituents of the inguinal canal are the spermatic cord, the inguinal nerve and the genital branch of the genitofemoral nerve.
  - d) The internal ring is a U-shaped opening in the external oblique aponeurosis 1.25 cm above the mid-inguinal point.
6. Which of the following are not true about a sliding inguinal hernia?
  - a) It is far more common in men.
  - b) It should be suspected clinically in small hernias confined to the inguinal canal.
  - c) It is impossible to control with a truss, and hence an operation is indicated.
  - d) It is unnecessary to excise the sac and attempts to dissect the bowel wall can be dangerous.
7. Which of the following statements regarding a femoral hernia are true?
  - a) It is more common in women.
  - b) The femoral canal occupies the most lateral component of the femoral sheath.
  - c) It can be easily controlled by truss.
  - d) An operation is only occasionally required.
8. Which of the following statements are true regarding umbilical hernia?
  - a) Men are affected more frequently than women.
  - b) Irreducibility is common due to omental adhesions.
  - c) Mayo's operation involves mesh repair of the hernia.
  - d) Infantile umbilical hernias need immediate surgery.
9. Which of the following are causes of umbilical discharge?
  - a) Persistent vitello-intestinal duct
  - b) Persistent urachus
  - c) Pilonidal sinus
  - d) All of the above.

- 10. Which of the following are true regarding ‘burst abdomens’?**
- a) The incidence is around 10–15 per cent.
  - b) Catgut is associated with a lower risk of burst abdomen.
  - c) A serosanguinous discharge is the forerunner of disruption in half of these cases.
  - d) Most cases are managed conservatively.
- 11. Chronic groin pain following an inguinal hernia repair may be the result of:**
- a) Division of the nerves during the surgical procedure
  - b) Postoperative scar tissue
  - c) Use of a mesh
  - d) All of the above.
- 12. Which of the following statements is true regarding surgical technique?**
- a) A Bassini repair can be used for femoral hernias.
  - b) A Shouldice repair approximates the transverses abdominis aponeurosis to Cooper’s ligament medially and the iliopubic tract laterally. It requires a relaxing incision.
  - c) A total extraperitoneal repair (TEP) is a laparoscopic approach that stays in the preperitoneal space by using a balloon dissector.
  - d) A Bassini repair uses a piece of mesh to reinforce the floor of the inguinal canal and recreate the internal ring in a tension-free manner.
- 13. Which of the following statements are true regarding laparoscopic inguinal hernia anatomy?**
- a) The triangle of doom is bordered by the vas deferens, iliopubic tract, and gonadal vessels and contains the ilioinguinal and iliohypogastric nerves that must be avoided to prevent pain.
  - b) The lateral-most border of the dissection is the anterior superior iliac spine.
  - c) The femoral branch of the genitofemoral nerve and the lateral femoral cutaneous nerve are located medial and superior to the iliopubic tract.
  - d) The femoral canal cannot be accessed through a preperitoneal approach; therefore femoral hernias cannot be repaired laparoscopically.
- 14. Which of the following statements is false regarding the iliopubic tract?**
- a) It extends from the anterior superior iliac spine to the pubis.
  - b) It is a condensation of the transversalis fascia.
  - c) It is of anatomic interest but has little clinical significance.
  - d) It runs underneath the shelving portion of the Poupart’s ligament
- 15. Which of the following statements is false regarding the incidence of abdominal wall hernias?**
- a) Two-thirds of all inguinal hernias are classified as indirect.
  - b) Femoral hernias are more common in females than in males.
  - c) Indirect hernias are common in females.
  - d) Hernias generally occur with equal frequency in males and females.
- 16. Which of the following statements is true regarding direct inguinal hernias?**
- a) Direct hernias are commonly congenital and found in younger patients.
  - b) The risk of incarceration of a direct hernia is high.
  - c) A direct hernia is solely a weakening of the inguinal floor and does not pass through the inguinal rings.
  - d) An indirect hernia may be present as well.



- 17. Which of the following statements about the management of inguinal hernias in infants and children is true?**
- a) Repair should be delayed until a child reaches school age since most inguinal hernia defects close spontaneously.
  - b) Repair usually requires a Bassini procedure.
  - c) Contralateral inguinal exploration is indicated routinely because of the high risk for bilaterality.
  - d) Intubation of the clinically apparent hernia sac with a laparoscope is one method of examining the contralateral side.
- 18. Which of the following hernias is most likely to recur after a primary repair?**
- a) Epigastric hernia
  - b) Spigelian hernia
  - c) Femoral hernia
  - d) Incisional hernia
- 19. Which of the following is a true statement regarding umbilical hernias?**
- a) They are the embryonic equivalent of a small omphalocele.
  - b) Repair in infants is usually deferred until approximately 1 year of age.
  - c) Repair in adults is generally indicated.
  - d) The “vest-over-pants” type of repair is stronger than simple approximation of fascial margins.
- 20. A 75-year-old man is seen in the emergency department with a 2-h history of an incarcerated femoral hernia. He takes warfarin for a past history of atrial fibrillation and has an international normalized ratio (INR) of 3.1. Which of the following is the correct treatment?**
- a) Admit the patient for correction of the INR and repair the hernia in the morning.
  - b) Perform an emergency laparoscopic repair of the hernia.
  - c) Perform an emergency open repair of the hernia.
  - d) Attempt a reduction of the hernia in the emergency department after sedation.
- 21. Which one of the following statements with regard to epigastric hernia is incorrect?**
- a) The majority are symptomatic.
  - b) It is more common in males.
  - c) Incarceration of intra-abdominal viscera is extremely rare.
  - d) Spontaneous resolution occurs in children under 10 years of age.
- 22. Which one of the following statements with regard to infantile umbilical hernia is incorrect?**
- a) 90% disappear by 2 years of age.
  - b) The majority require surgical repair.
  - c) Hernias with a defect of > 1.5 cm are unlikely to heal spontaneously.
  - d) Complications are rare.
- 23. Umbilical hernia in adults is:**
- a) Common in males.
  - b) Associated with high morbidity and mortality.
  - c) Surgical repair is required in almost all patients.
  - d) b and c.
- 24. The risk factors for umbilical hernia include all of the following, EXCEPT:**
- a) Obesity.
  - b) Cirrhosis.
  - c) Peritoneal dialysis.
  - d) Diabetes.

- 25. The superficial inguinal ring is situated:**
- a) Midway between the pubic tubercle and the anterior superior iliac spine.
  - b) 1 cm above the pubic tubercle.
  - c) Midway between the pubic symphysis and the anterior superior iliac spine.
  - d) 1 cm above the pubic symphysis.
- 26. The deep inguinal ring is a defect in which of the following layers of the abdominal wall?**
- a) External oblique aponeurosis.
  - b) Internal oblique aponeurosis.
  - c) Transversalis fascia.
  - d) Transversus abdominis muscle.
- 27. The deep inguinal ring is situated:**
- a) 1 cm above the midpoint between the pubic tubercle and the anterior superior iliac spine.
  - b) 1 cm above the midpoint between the pubic symphysis and the anterior superior iliac spine.
  - c) 1 cm below the midpoint between the pubic symphysis and the anterior superior iliac spine.
  - d) 1 cm above and lateral to the pubic tubercle.
- 28. The anterior boundary of the inguinal canal is formed by:**
- a) External oblique aponeurosis and conjoint tendon.
  - b) Transversalis fascia and conjoint tendon.
  - c) Conjoint tendon.
  - d) Ileopubic tract and inguinal ligament.
- 29. The relationship between direct inguinal hernia and inferior epigastric artery is:**
- a) Inferior epigastric artery is lateral to the direct hernia.
  - b) Inferior epigastric artery is medial to the direct hernia.
  - c) Inferior epigastric artery is anterior to the direct hernia.
  - d) Inferior epigastric artery is posterior to the direct hernia.
- 30. Which one of the following statements with regard to inguinal hernia in infants is INCORRECT?**
- a) Herniotomy is the treatment of choice.
  - b) More than half are bilateral.
  - c) All patients should be offered surgery.
  - d) Undescended/ectopic testis is associated with inguinal hernia.
- 31. The most common hernia in females IS:**
- a) Inguinal hernia.
  - b) Femoral hernia.
  - c) Epigastric hernia.
  - d) Lumbar hernia.
- 32. A 60 -year-old male patient with chronic renal failure on peritoneal dialysis presents with an inguinal hernia. The most likely cause of the hernia is:**
- a) The presence of patent process vaginalis.
  - b) Weakness of the anterior abdominal wall.
  - c) Raised intra-abdominal pressure due to peritoneal dialysis.
  - d) None of the above.
- 33. The preferred method of repair for a recurrent inguinal hernia is:**
- a) Lichtenstein repair.
  - b) Laparoscopic repair.
  - c) Shouldice repair.
  - d) McVay repair.

- 34. A 50-year-old male patient with a right-sided inguinal hernia is booked for a day case hernia repair under local anesthesia. At the time of consent for the procedure, the patient tells the surgical registrar that he is on warfarin for recurrent deep vein thrombosis. International normalized ratio (INR) is 2.5 on the day of surgery. The best management option for this patient IS:**
- a) Hernia repair as planned.
  - b) Fresh frozen plasma followed by hernia repair on the same day.
  - c) Intravenous vitamin K followed by surgical repair on the following day.
  - d) Surgery should be cancelled and the patient should be admitted later after stopping warfarin for 72 hours.
- 35. The boundaries of the femoral ring include all of the following, except the:**
- a) Inguinal ligament.
  - b) Iliopectineal ligament.
  - c) Lacunar ligament.
  - d) Pubic tubercle.
- 36. The medial boundary of the femoral triangle is formed by the:**
- a) Pectineus muscle.
  - b) Adductor magnus.
  - c) Sartorius,
  - d) Femoral vein.
- 37. The most medial structure in the femoral triangle is the:**
- a) Femoral ring.
  - b) Femoral vein.
  - c) Femoral artery.
  - d) Femoral nerve.
- 38. The incidence of femoral hernia increases with age. This is most likely due to:**
- a) Muscle atrophy.
  - b) Loss of fat.
  - c) Laxity of the inguinal ligament.
  - d) High incidence of co-morbidities.
- 39. The optimal ratio between suture and wound length that is associated with a lower rate of incisional hernia is:**
- a) 4:1.
  - b) 5:1.
  - c) 2:1.
  - d) 1:1.
- 40. All of the following are risk factors for the development of an incisional hernia, EXCEPT:**
- a) Advanced age.
  - b) Anemia.
  - c) Morbid obesity.
  - d) Wound infection.
- 41. Richter's hernia is:**
- a) Incarceration of part of the circumference of the bowel.
  - b) Inguinal hernia with both a direct and indirect hernia component.
  - c) Presence of the appendix in the hernial sac.
  - d) Hernia through the arcuate line.
- 42. Damage to which of the following nerves results in inguinal hernia formation following appendicectomy:**
- a) Iliohypogastric nerve.
  - b) Genital branch of the genitofemoral nerve.
  - c) Lateral cutaneous nerve of the thigh.
  - d) Ilioinguinal nerve.
- 43. The deep inguinal ring is a defect in the:**
- a) Internal oblique muscle.
  - b) Transversus abdominis muscle.
  - c) Internal spermatic fascia.
  - d) Transversalis fascia.

- 44. Injury to which of the following nerves during inguinal hernia repair can give rise to anesthesia at the root of the penis and adjacent part of the scrotum?**
- a) Genital branch of the genitofemoral nerve.
  - b) Femoral branch of the genitofemoral nerve.
  - c) Iliohypogastric nerve.
  - d) Ilioinguinal nerve.
- 45. The primary treatment modality of choice for desmoid tumor is:**
- a) Surgery.
  - b) Chemotherapy.
  - c) Radiotherapy.
  - d) Surgery and radiotherapy.
- 46. The most common content in hernia-en-glissade is the:**
- a) Omentum.
  - b) Urinary bladder.
  - c) Cecum.
  - d) Sigmoid colon.
- 47. The most common sliding component of a direct hernia is the:**
- a) Bladder.
  - b) Cecum.
  - c) Ascending colon.
  - d) Descending colon.
- 48. The most common hernia to strangulate IS:**
- a) Direct inguinal hernia.
  - b) Indirect inguinal hernia.
  - c) Femoral hernia.
  - d) Epigastric hernia.
- 49. Which of the following is one of the three borders of the Hesselbach's triangle?**
- a) Superior epigastric artery
  - b) Inguinal ligament
  - c) Edge of the transversalis muscle
  - d) Internal inguinal ring.
- 50. Which of the following has the lowest recurrence rate after open inguinal hernia repair?**
- a) Basini repair
  - b) McVay repair
  - c) Shouldice repair
  - d) Marcy repair
- 51. The commonest complicated hernia is:**
- a) Femoral
  - b) Lumbar
  - c) Inguinal
  - d) Epigastric
- 52. The following hernia is the most liable to strangulation:**
- a) Femoral hernia
  - b) Umbilical hernia
  - c) Inguinal hernia
  - d) incisional hernia
- 53. The treatment of choice in strangulated hernia is:**
- a) Conservative management
  - b) Reduction by taxis must be tried first
  - c) Urgent exploration is the rule
  - d) A & B
- 54. The structure that lies between the two components of pantaloon hernia is:**
- a) Spermatic cord
  - b) Femoral artery
  - c) Conjoint tendon
  - d) Inferior epigastric artery
- 55. Sliding hernia:**
- a) May contain part of bladder wall
  - b) Causes partial irreducibility
  - c) Predisposes to complications
  - d) All of the above.

- 56. A 55-year-old man with liver failure and ascites has an enlarging umbilical hernia. He has never undergone diuretic therapy. The correct therapy is:**
- a) Open repair with a waterproof mesh
  - b) High-volume paracentesis immediately before repair
  - c) Deferring hernia repair until correction of the ascites by maximal medical therapy, transjugular intrahepatic portosystemic shunting, or liver transplantation
  - d) Laparoscopic repair with an inlay mesh
- 57. Which of the following statements is true regarding femoral hernias?**
- a) Femoral hernias should not be repaired through an infra-inguinal approach.
  - b) If an incarcerated femoral hernia cannot be reduced intraoperatively, the insertion of the inguinal ligament can be cut from the pubic tubercle to allow more space.
  - c) Femoral hernias are more common than inguinal hernias in females.
  - d) A laparoscopic repair is an inappropriate choice for a femoral hernia repair.
- 58. Correct statements regarding the management of an incarcerated groin hernia include all of the following except:**
- a) A giant inguinal hernia is a chronically incarcerated hernia containing the majority of the bowel. After reduction, loss of abdominal domain and elevated intraabdominal pressures can be a concern.
  - b) Evaluation of the contents of the hernia sac is a step required in the repair of an incarcerated hernia.
  - c) Incarcerated femoral hernias can be repaired on an elective basis.
  - d) A hydrocele may mimic an incarcerated hernia.
- 59. Which of the following is true regarding characteristics of mesh used in hernia repair?**
- a) Lightweight mesh, compared with heavyweight mesh, provokes an intense inflammatory reaction in the body causing scarring, pain, and shrinkage.
  - b) Synthetic meshes can never be placed into a contaminated field.
  - c) Polypropylene meshes have high adhesion risks, so they should not be placed directly next to bowel.
  - d) Biologic meshes are processed human, bovine, and porcine tissues composed of a collagen matrix and immune cells.
- 60. All the following statements concerning the Lichtenstein repair are true except:**
- a) It is performed with local anesthesia in an outpatient setting.
  - b) Polypropylene is the most common prosthetic material used for the repair.
  - c) The medial edge of the mesh is sutured to the transversalis fascia, and the lateral edge is sutured to the inguinal ligament.
  - d) To reduce recurrence rates, the most cephalad tails of the mesh should extend 2 to 4 cm beyond the internal ring.

- 61. Which of the following is not true regarding laparoscopic hernia repair?**
- a) Local anesthesia with sedation is the most common form of anesthesia used.
  - b) It could lead to injury to the genitofemoral nerve and the lateral femoral cutaneous nerve.
  - c) Transabdominal preperitoneal or total Extraperitoneal approaches are commonly used.
  - d) Fixation devices for the mesh should not be placed below the iliopubic tract.
- 62. Which of the following urologic complications does not occur with hernia repair?**
- a) Ischemic orchitis
  - b) Transection of the vas deferens
  - c) Prostatitis
  - d) Testicular atrophy
- 63. Which of the following statements is not true with regard to incisional ventral hernias?**
- a) Primary repairs are associated with a 30%–50% recurrence rate.
  - b) The incidence of incisional hernias is between 2% and 11% after laparotomy.
  - c) Prosthetic mesh repairs have reduced the recurrence rate to 20% or less.
  - d) Comorbid conditions, such as diabetes, hypertension, and obesity, are uncommon in patients with incisional hernias.
- 64. A 55-year-old man who runs marathons has a recurrent inguinal hernia. Which statement is correct?**
- a) The previous type of repair has no significance in the treatment plan.
  - b) A Shouldice repair is recommended.
  - c) He will have to stop running marathons after repair.
  - d) Laparoscopic repair, if the previous repair was performed in an open manner with a mesh, is an evidence-based choice.
- 65. The separation-of-components technique:**
- a) Is best for hernias with fascial defects of 3 cm or less
  - b) Has a recurrence rate of approximately 10%
  - c) May be used when there is contamination or bowel surgery is required
  - d) Is contraindicated for recurrent incisional hernias
- 66. About abdominal incisions, all the following statements are true, except:**
- a) The incision should provide good exposure to the target area.
  - b) Muscle-splitting incisions are less likely to result in incisional hernia than muscle-cutting ones.
  - c) A transverse suprapubic incision results in a better-looking scar than a lower midline incision.
  - d) Atelectasis is more frequent after laparoscopy than after an upper midline incision.
- 67. About abdominal incisions, all the following statements are true, except:**
- a) Midline incisions take longer time to make and to close than paramedian ones.
  - b) In a paramedian incision, the rectus abdominis is retracted laterally.
  - c) A midline incision can be extended from the xiphoid to the symphysis pubis.
  - d) A paramedian transrectal incision results in a weaker scar than a classic paramedian incision.

- 68. For closure of a midline abdominal incision, all the following statements are true, except:**
- a) It can be closed by either interrupted or continuous fascial sutures.
  - b) Fascial sutures should be placed at least 1 cm from the edge.
  - c) Peritoneal closure does not add to the wound's tensile strength.
  - d) Fascial sutures should be tied under tension in order to avoid burst abdomen
- 69. About Stoppa's technique of hernia repair, all the following statements are true, except:**
- a) A small non-absorbable piece of mesh is used to plug the defect.
  - b) The mesh is placed in the pre-peritoneal space.
  - c) It can be done by open surgery.
  - d) It is suitable for oblique inguinal hernia repair.
- 70. All are true about Spigelian hernia except:**
- a) Strangulation is common.
  - b) Occurs at the arcuate line.
  - c) Lies deep to internal oblique muscle.
  - d) Occurs from a defect of the Spigelian fascia which is the medial extension of the fascia transversalis.
- 71. The factors which predispose to recurrence of an oblique inguinal hernia do not include:**
- a) Inadequate repair of the posterior wall of the inguinal canal.
  - b) Overlooking an associated direct hernia sac.
  - c) Use of absorbable suture material.
  - d) Inadequate approximation of the external ring.
- 72. Concerning McBurney's incision, the untrue statement is that it:**
- a) Is the most popular incision for appendectomy.
  - b) Gives direct access to the appendix.
  - c) Enjoys a "grid-iron" effect which strengthens the scar.
  - d) Is readily extensible when more exposure is required.
- 73. The most common site for the Richter's hernia is:**
- a) Inguinal canal.
  - b) Sacral foramen.
  - c) Femoral canal.
  - d) Obturator foramen.
- 74. Which of the following statements is True for Maydl's hernia:**
- a) It is a rare type of hernia.
  - b) The strangulated loop lies within the abdomen.
  - c) Local tenderness on the sac is not marked.
  - d) All are true.
- 75. What anatomic abnormality is present in an inguinal hernia in an infant?**
- a) Patent processus vaginalis
  - b) Weakness in the inguinal floor
  - c) Obliteration of the inguinal floor
  - d) Congenital absence of both the external and internal rings

**76. A 1-month-old neonate has an umbilical hernia with a palpable 1-cm defect. Which of the following statements is true?**

- a) The likelihood of spontaneous closure is low, and the hernia should be repaired.
- b) Indications for the early repair of an umbilical hernia include a history of incarceration, a large skin proboscis, and the presence of a ventriculo-peritoneal shunt.
- c) Repair of the hernia defect should include the placement of a mesh.
- d) Complete closure of the umbilical ring may be expected in 30% of children by the age of 4 to 6 years.

**❖ Choose and match the correct diagnosis with each of the scenarios given below:**

**77. A 70-year-old male is referred to your clinic with a long-standing left inguinal hernia. He has not noticed any recent changes in his hernia and his bowels have been normal. On examination you see a giant inguinoscrotal hernia which is not completely reducible. (C)**

**78. A 40-year-old male is referred with irreducibility and increasing pain over his right inguinal hernia over the past 8 h. On examination the hernia is extremely tender with signs of peritonitis. (A)**

**79. A 60-year-old female is referred with a history of increasing abdominal pain and distension over the past 2 days. She has been vomiting repeatedly over this period. Clinical examination reveals a right groin lump which is not reducible and abdominal examination reveals a distended but soft abdomen with increased bowel sounds. (B)**

**80. A 50-year-old male is referred with irreducibility and discomfort over his right inguinal hernia over the past 3 h. His bowels have been normal. An irreducible hernia is confirmed on examination. The abdomen is soft, non-tender and not distended. (E)**

**81. A 90-year-old woman with a long-standing history of incisional hernia presents to the emergency with faeculant discharge from the hernia site. Examination reveals excoriated and ulcerated skin over the incarcerated long-standing hernia. (D)**

- a) Strangulation
- b) Obstruction
- c) Incarceration
- d) Perforation
- e) Irreducibility



❖ *Match the hernia with the description:*

- 82. Richter hernia (B)
- 83. Littre's hernia (D)
- 84. Lumbar hernia (E)
- 85. Spigelian hernia (C)
- 86. Amyand's hernia (A)

- a) Hernia containing the appendix
- b) Hernia containing the antimesenteric wall of the intestine
- c) Hernia in between the semilunar line and the rectus muscle
- d) Hernia containing a Meckel's diverticulum
- e) Hernia through the superior or inferior lumbar triangle

❖ *Choose and match the most appropriate operation with each of the conditions given below:*

- 87. Primary unilateral inguinal hernia (C)
- 88. Primary bilateral inguinal hernia (F)
- 89. Recurrent inguinal hernia – post-open repair (F)
- 90. Infantile umbilical hernia (A)
- 91. Recurrent inguinal hernia – post-laparoscopic repair (B)
- 92. Divarication of recti (E)
- 93. Incisional hernia (D)
- 94. Epigastric hernia (H)
- 95. Paraumbilical hernia (G)

- a) Wait and watch
- b) Transabdominal preperitoneal (TAPP) repair
- c) Open mesh repair
- d) Open/laparoscopic mesh repair
- e) Non-surgical
- f) Total extraperitoneal (TEP)/TAPP repair
- g) Mayo repair
- h) Open suture repair

**Chapter (3): GIT Surgery**

**A-Oesophagogastric surgery**

- 1. All of the following are predisposing factors for esophageal cancer, EXCEPT:**
  - a) Tylosis.
  - b) Achalasia.
  - c) Corrosive stricture.
  - d) Helicobacter pylori infection.
- 2. The most common type of esophageal malignancy associated with Barrett's esophagus IS:**
  - a) Lymphoma.
  - b) Adenocarcinoma.
  - c) Squamous cell carcinoma.
  - d) Adenosquamous cell carcinoma.
- 3. The most common site of the esophageal carcinoma IS:**
  - a) Cervical esophagus.
  - b) Upper third thoracic esophagus.
  - c) Lower third thoracic esophagus.
  - d) Middle third thoracic esophagus.
- 4. The most common type of gastric polyps are:**
  - a) Fundic polyps.
  - b) Neoplastic polyps.
  - c) Hyperplastic polyps.
  - d) Inflammatory polyps.
- 5. The gastric polyp that has no risk of malignant transformation IS:**
  - a) Hyperplastic polyp.
  - b) Adenomatous polyp.
  - c) Fundic gland polyp.
  - d) Polyp associated with familial adenomatous polyp.
- 6. Early gastric cancer is defined as:**
  - a) Carcinoma limited to mucosa or submucosa with lymph node involvement.
  - b) Full thickness involvement of the stomach without lymph node involvement.
  - c) Carcinoma limited to mucosa or submucosa without lymph node involvement.
  - d) Carcinoma limited to mucosa or submucosa irrespective of lymph node involvement.
- 7. The most common type of early gastric cancer IS:**
  - a) Flat type.
  - b) Exophytic type.
  - c) Elevated type (type IIa).
  - d) Ulcerating type (type III and IIc).
- 8. Which one of the following statements is incorrect with regard to early gastric cancer?**
  - a) 5-year survival is over 90%.
  - b) Ulcerative type (type III and IIc) is the most common type.
  - c) They are predominantly found in the fundus of the stomach.
  - d) In transmucosal early gastric cancers are rarely associated with lymph node involvement.

- 9. Familial gastric cancer is associated with germinal mutations of which of the following genes:**
- a) p53.                      b) APC.                      c) DCC.                      d) E-cadherin.
- 10. The most common site of gastrointestinal stromal tumors IS:**
- a) Rectum.                      b) Stomach.                      c) Small bowel.                      d) Large bowel.
- 11. The most common site of extranodal lymphoma IS:**
- a) Esophagus.                      b) Duodenum                      c) Stomach.                      d) Ileum.
- 12. The treatment of choice for stage I mucosa-associated lymphatic tissue lymphoma (MALToma) IS:**
- a) Systemic chemotherapy and radiotherapy.                      c) Sub-total gastrectomy.  
b) Helicobacter pylori eradication.                      d) Total gastrectomy.
- 13. The incidence of carcinoma is high in gastric polyps of size more than:**
- a) 1 cm.                      b) 2 cm.                      c) 3 cm.                      d) 5 cm.
- 14. Which of the following conditions is associated with an increased risk of cervical esophageal cancer?**
- a) Achalasia cardia.                      c) Gastro-oesophageal reflux.  
b) Barrett's esophagus.                      d) Plummer-Vinson syndrome.
- 15. The investigation associated with high sensitivity and specificity in the loco-regional staging of esophageal cancer is:**
- a) Computed tomography (CT).                      c) Magnetic resonance imaging (MRI).  
b) Endoscopic ultrasound (EUS).                      d) Positron emission tomography (PET scan).
- 16. The commonly used in vitro dye stains for the detection of early esophageal cancer are:**
- a) 1-2 % Lugol's iodine.                      c) 1-2 % methylene blue.  
b) 2 % toluidine blue.                      d) All of the above.
- 17. Helicobacter pylori is not associated with:**
- a) Mucosa-associated lymphatic tissue lymphoma (MALToma).  
b) Gastric leiomyoma.                      c) Gastric cancer.                      d) Gastric ulcer.
- 18. Positron emission tomography (PET) differs from computed tomography (CT) and magnetic resonance imaging (MRI) in all of the following aspects, EXCEPT:**
- a) It gives anatomical details of the tumor.  
b) It can predict the response to chemotherapy.  
c) It is based on the high metabolic activity of the malignant cells.  
d) It measures the biological and physiological function of the tumor tissue.

- 19. The following investigation has better specificity and sensitivity in detecting nodal and distant metastasis of esophageal cancer:**
- a) Positron emission tomography (PET)-CT scan.
  - b) Magnetic resonance imaging (MRI).
  - c) Endoscopic ultrasound (EUS).
  - d) CT scan.
- 20. The most accurate staging modality for T and local N staging of esophageal cancer is:**
- a) Positron emission tomography (PET)-CT.
  - b) Magnetic resonance imaging (MRI).
  - c) Endoscopic ultrasound (EUS).
  - d) CT scan.
- 21. The presence of which of the following features is highly indicative of lymph nodal involvement on endoscopic ultrasound:**
- a) Lymph nodes of more than 8 mm in size.
  - b) Rounded, heterogeneous with distinct borders.
  - c) Rounded, sharply demarcated, homogenous, hypoechoic.
  - d) Elongated, heterogeneous, hyperechoic with indistinct borders.
- 22. The most common site of a benign (peptic) gastric ulcer is the:**
- a) Lesser curvature near incisura angularis.
  - b) Upper third of the lesser curvature.
  - c) Greater curvature.
  - d) Pyloric antrum.
- 23. Staging laparoscopy is indicated in patients with gastric cancer because:**
- a) It can detect less than 1 cm liver metastasis.
  - b) It is more accurate in detecting small peritoneal metastasis.
  - c) It has the advantage of cytological assessment of tumor spread.
  - d) All of the above.
- 24. A 55-year-old male patient with type II diabetes, hypertension and asthma well controlled on medication was recently diagnosed with lower esophageal cancer. His American Society of Anesthesiologists (ASA) grade would be:**
- a) ASA-I.
  - b) ASA-II.
  - c) ASA-III.
  - d) ASA-IV.
- 25. Which of the following statements is incorrect with regard to metabolic equivalents (MET levels)?**
- a) The functional capacity is considered excellent if METs are less than seven.
  - b) MET levels are measures of aerobic demand for common daily activity and past-time.
  - c) One MET level is equivalent to 3.5 ml/kg/min of O<sub>2</sub> uptake in a 70 kg, 40-year-old male at rest.
  - d) Perioperative cardiac and long-term risk is increased in patients unable to meet a 4-MET demand during normal activity.

- 26. The clinical predictors of increased perioperative cardiovascular risk in patients undergoing major esophageal resectional surgery ARE:**
- a) Myocardial infarction within 6 months prior to surgery.
  - b) Unstable angina.
  - c) Diabetes mellitus.
  - d) a and b.
- 27. All of the following are clinical predictors of significant perioperative cardiovascular risk, EXCEPT:**
- a) Severe aortic valvular disease.
  - b) Decompensated congestive heart failure.
  - c) High-grade atrioventricular block.
  - d) Patients who had recent coronary artery bypass graft (CABG) surgery with good residual ventricular function.
- 28. The beneficial effects of smoking cessation in reducing postoperative morbidity are only seen in patients:**
- a) Who stop smoking 2 weeks prior to surgery?
  - b) Who stop smoking 8 weeks before surgery?
  - c) Who stop smoking within 48 hours before surgery?
  - d) Who stop smoking within a month prior to surgery?
- 29. Which of the following statements is incorrect with regard to lymphatic spread in patients with early esophageal cancer?**
- a) Lymph node metastasis is rare in tumors limited to mucosa.
  - b) 5-10% of patients with pT1a have lymph node metastasis.
  - c) High-grade dysplasia is not associated with lymphatic spread.
  - d) The prevalence of lymph node metastasis increases to 25% by invasion into the submucosa.
- 30. The advantages of the transhiatal approach compared to the transthoracic approach include all, EXCEPT:**
- a) It is the preferred approach in patients with early esophageal cancer.
  - b) Associated with lower risk of respiratory complications.
  - c) Associated with higher risk of anastomotic leak.
  - d) Radical thoracic lymph node clearance is better.
- 31. The best esophageal conduit is:**
- a) Free jejunal graft.
  - b) Stomach.
  - c) Jejunum.
  - d) Colon.
- 32. The most common complication following esophagectomy IS:**
- a) Anastomotic stricture.
  - b) Anastomotic leak.
  - c) Pneumonia.
  - d) Chyle leak.
- 33. The most effective and preferred treatment for cervical esophageal cancer IS:**
- a) Chemo-radiotherapy.
  - b) Total pharyngolaryngectomy.
  - c) Chemotherapy followed by surgery.
  - d) Total esophagectomy with anastomosis in neck.

- 34. Which of the following statements is incorrect with regard to familial gastric cancer due to E-cadherin gene mutation?**
- a) Diffuse type is more common.
  - b) It is associated with poor prognosis.
  - c) It is an autosomal recessive disorder.
  - d) Mutant gene carriers may also develop breast or colorectal carcinoma.
- 35. Early gastric cancer with the following features is not suitable for endoscopic mucosal resection (EMR):**
- a) Depressed lesion less than 1 cm without ulceration.
  - b) Elevated or flat lesions less than 2 cm.
  - c) Poorly-differentiated tumor.
  - d) Lesion confined to mucosa.
- 36. The thoracic duct enters the posterior mediastinum through the following opening in the diaphragm:**
- a) Aorta.
  - b) Esophagus.
  - c) Inferior vena cava.
  - d) It has a separate opening in the diaphragm.
- 37. The esophageal opening in the diaphragm corresponds to:**
- a) T10.
  - b) T12.
  - c) T8.
  - d) L1.
- 38. The strongest layer in the esophagus is the:**
- a) Serosa.
  - b) Mucosa.
  - c) Sub-mucosa.
  - d) Muscularis propria.
- 39. Which of the following is an incorrect statement regarding the anatomy of the thoracic esophagus?**
- a) It has no serosal covering.
  - b) The lower third of the esophagus is anteriorly related to the pericardium.
  - c) The azygous vein passes posterior to the esophagus before joining the superior vena cava.
  - d) The thoracic duct is related to the posterolateral aspect of the esophagus.
- 40. The preferred route of reconstruction following primary surgical excision of esophageal cancer IS:**
- a) Pre-sternal.
  - b) Retro-sternal.
  - c) Through posterior mediastinum.
  - d) All of the above.
- 41. The posterior mediastinal route is the preferred route of esophageal reconstruction following esophageal resection because:**
- a) Anastomotic leak rate is low compared to the retro-sternal route.
  - b) The retro-sternal route may result in unpleasant sensation during swallowing.
  - c) It provides the shortest distance between the abdomen and apex of thorax.
  - d) b and c.
- 42. The stomach is the most commonly used conduit for reconstruction following esophagectomy. In the preparation of gastric conduit, the following blood vessels are preserved:**
- a) Left gastric artery.
  - b) Right gastric artery.
  - c) Short gastric vessels.
  - d) Right gastric artery and gastroepiploic arcade.

43. A 50-year-old male patient with a previous history of gastric resection surgery for ulcer disease is recently diagnosed with T3N0 gastro-esophageal cancer. The most preferred conduit in this patient following esophageal resection is:
- a) Colon.                      b) Stomach.                      c) Jejunum.                      d) Free jejunal graft.
44. Mesenteric angiography is indicated in all of the following cases, EXCEPT:
- a) In patients undergoing primary esophageal resection.  
b) In patients who had failed esophageal reconstruction following gastric conduit.  
c) In patients undergoing esophageal resection with a previous history of gastric resection surgery.  
d) None of the above.
45. Gastric cancer most commonly spreads via:
- a) Lymphatics.                      b) Peritoneal.                      c) Direct extension.                      d) Hematogenous.
46. Which of the following statements is INCORRECT regarding diffuse gastric cancer?
- a) It is the commonest type of cancer linked with genetic disorder  
b) It is common in the upper third of the stomach.  
c) It is more common in elderly patients.                      d) It is associated with poor prognosis.
47. The reason behind increased morbidity, mortality and poor survival following gastric cancer surgery in the West compared to Japan is mainly due to:
- a) It is a different disease in the West.  
b) A higher proportion of patients in Japan have intestinal type cancer.  
c) The incidence of proximal cancer is higher in the West.  
d) b and c.
48. Which of the following lymph node stations are rarely involved in the metastasis from distal gastric cancer?
- a) Stations 3 and 4.                      c) Stations 7 and 8.  
b) Stations 5 and 6.                      d) Stations 2 and 10.
49. The risk of nodal metastasis to which of the following lymph node stations is low in patients with middle third gastric cancer?
- a) Stations 3 and 4.                      c) Stations 8 and 9.  
b) Stations 6 and 7.                      d) Stations 2 and 10.
50. Proximal third gastric cancer rarely spreads to which of the following lymph node stations?
- a) Station 1.                      c) Station 3.  
b) Station 7.                      d) Station 12.
51. Which of the following lymph node stations are not removed en bloc in patients with distal third gastric cancer?
- a) Stations 5 and 6.                      c) Stations 7 and 8.  
b) Stations 2 and 10.                      d) Stations 3 and 4.

**52. Early dumping syndrome is common following:**

- a) Total gastrectomy.
- b) Partial gastrectomy.
- c) Subtotal gastrectomy.
- d) Total gastrectomy and jejunal pouch.

**53. Early dumping syndrome is due to:**

- a) Hypoglycemia.
- b) Bacterial overgrowth.
- c) Reflux of alkaline contents into the stomach.
- d) Rapid movement of fluid into the small intestine from extracellular fluid.

**54. Malabsorption of the following vitamins is common after subtotal/total gastrectomy:**

- a) Vitamin E, C and K.
- b) Vitamin A, E and K.
- c) Vitamin K, D and B12.
- d) Vitamin A, D and B12.

**55. Which of the following statements regarding gastrointestinal stromal tumors (GIST) is incorrect?**

- a) Stomach is the commonest site.
- b) Most GISTs are spindle cell tumors.
- c) They spread through the lymphatics.
- d) They most likely originate from interstitial cells of Cajal

**56. The molecular feature that differentiates gastrointestinal stromal tumors (GIST) from other mesenchymal tumors is:**

- a) Presence of CD 11 7.
- b) Presence of CD 25.
- c) Presence of CD 4.
- d) Presence of CD 8.

**57. The parameter that is not useful in the assessment of the prognosis of gastrointestinal stromal tumor (GIST) is:**

- a) Mitotic index.
- b) Size of the tumor.
- c) Location of the tumor.
- d) Ki-67 proliferative index.

**58. A 50-year-old patient with 8 cm of gastrointestinal stromal tumor (GIST) in the small bowel underwent resection and anastomosis. The histology of the tumor shows a mitotic index of more than 10 per 10 high power fields. The risk of recurrence in this patient is:**

- a) High.
- b) Low.
- c) Very low.
- d) Intermediate.

**59. Which of the following statements regarding gastrointestinal stromal tumor (GIST) is incorrect?**

- a) They commonly metastasize to the liver.
- b) Benign GISTs are more common in the small bowel.
- c) Approximately 3 % of GISTs are negative for KIT gene mutation.
- d) Gastric GISTs have better survival than GIST arising from other sites.

**60. The investigation useful in assessing response to chemotherapy in patients with gastrointestinal stromal cell tumors (GISTs) is:**

- a) Computed tomography.
- b) Magnetic resonance imaging.
- c) Somatostatin receptor scintigraphy.
- d) Positron emission tomography (PET)-CT.



- 61. The preferred type of surgical resection in a patient with approximately 4 cm pedunculated gastrointestinal stromal tumor (GIST) arising from the body of the stomach IS:**
- a) Total gastrectomy.
  - b) Sub-total gastrectomy.
  - c) Wedge resection of the stomach.
  - d) Partial gastrectomy with lymphadenectomy.
- 62. The mechanism of the action of imatinib used in the treatment of gastrointestinal stromal tumor (GIST) is:**
- a) It blocks the binding of ATP to c- KIT.
  - b) It inhibits the downward signaling pathway after the activation of c- KIT.
  - c) It inhibits the transportation of NF1 into the nucleus.
  - d) It inhibits the proliferation of cells by arresting the cell cycle in G1/S phase.
- 63. Imatinib is used in all of the following settings in gastrointestinal stromal tumor (GIST), EXCEPT:**
- a) Resectable GIST.
  - b) Unresectable GIST.
  - c) As neoadjuvant therapy.
  - d) As an adjuvant therapy following surgical resection.
- 64. The main reason for the development of resistance to imatinib in the treatment of gastrointestinal stromal tumor (GIST) IS:**
- a) Presence of PDGFR.
  - b) Due to increased efflux of imatinib.
  - c) Presence of KIT exon 9 mutation.
  - d) Due to development of antibodies to imatinib.
- 65. Which of the following statements regarding the anatomy of the esophagus is INCORRECT?**
- a) The esophagus receives blood supply from the inferior thyroid artery, descending thoracic aorta and left gastric artery.
  - b) The lower third of the esophagus is entirely composed of skeletal muscle.
  - c) The esophagus is lined by non-keratinized squamous epithelium.
  - d) It passes through the diaphragm at the level of T 10.
- 66. Corkscrew esophagus is seen in which one of the following conditions?**
- a) Carcinoma of the esophagus.
  - b) Diffuse esophageal spasm.
  - c) Achalasia cardia.
  - d) Scleroderma.
- 67. The most predominant cause of symptomatic gastro-esophageal reflux disease (GERD) IS:**
- a) Hiatus hernia.
  - b) Inappropriate transient lower esophageal sphincter relaxations.
  - c) Inability to clear the acid from the esophagus.
  - d) Delayed gastric emptying.

- 68. Which of the following statements regarding the pathophysiology of gastro-esophageal reflux disease (GERD) is INCORRECT?**
- a) Impaired esophageal acid clearance can be associated with GERD.
  - b) At present, the exact role of duodena-gastric reflux in GERD is unclear.
  - c) Presence of *Helicobacter pylori* infection is associated with increased acid secretion and GERD.
  - d) The significance of delayed gastric emptying in the pathogenesis of GERD is unclear.
- 69. The gold standard test in establishing the diagnosis of gastroesophageal reflux disease (GERD) IS:**
- a) Esophageal manometry.
  - b) Upper GI endoscopy.
  - c) Double contrast barium swallow.
  - d) 24-hour ambulatory pH monitoring.
- 70. The esophageal pH of less than 4, recorded 5 cm above a manometrically defined lower esophageal sphincter should be present in:**
- a) <25% of 24- hour period in normal individuals.
  - b) <4% of 24-hour period in normal individuals.
  - c) <50% of 24-hour period in normal individuals.
  - d) <10% of 24-hour period in normal individuals.
- 71. The most useful parameter for the diagnosis of gastroesophageal reflux disease (GERD) in a 24-hour pH study IS:**
- a) Acid reflux time during supine position.
  - b) Acid reflux time during sleeping.
  - c) Acid reflux time after meals.
  - d) Total acid reflux time.
- 72. Auerbach's plexus is situated:**
- a) In the submucosa of the esophagus.
  - b) In the adventitial layer of the esophagus
  - c) In the muscularis mucosa of the esophagus.
  - d) Between the outer longitudinal and inner circular muscle of the esophagus
- 73. The most common complication of Zenker's diverticulum IS:**
- a) Dysphonia.
  - b) Perforation.
  - c) Lung abscess.
  - d) Gastro-esophageal reflux
- 74. The treatment of choice in a 50-year-old male with achalasia cardia IS:**
- a) Laparoscopic Heller's cardiomyotomy.
  - b) High-dose proton pump inhibitor.
  - c) Open Heller's cardiomyotomy.
  - d) Pneumatic balloon dilatation.
- 75. The most common cause of gastroparesis is due to:**
- a) Diabetes.
  - b) Post-distal gastrectomy.
  - c) Post-pancreaticoduodenectomy.
  - d) Post-vagotomy for ulcer disease.

**76. The following antacid preparation contains alginate:**

- a) Gaviscon.
- b) Sucralfate.
- c) Milk of magnesia.
- d) Aluminium hydroxide.

**77. The following drug reduces acid secretion by inhibiting histamine type 2 receptor:**

- a) Ranitidine
- b) Omeprazole.
- c) Gaviscon.
- d) Cisapride.

**78. The long-term use of proton pump inhibitors can be associated with:**

- a) Gastric cancer.
- b) Carcinoid syndrome.
- c) Cardiac arrhythmias.
- d) Atrophic gastritis with intestinal metaplasia.

**79. The most frequent complication associated with anti-reflux surgery is:**

- a) Dysphagia.
- b) Injury to spleen.
- c) Esophageal perforation.
- d) Failure to control reflux.

**80. Anti-reflux operations decrease the acid reflux by all of the following mechanisms, EXCEPT:**

- a) Decreases the basal pressure generated by the lower esophageal sphincter (LES).
- b) Exaggeration of the flap valve at the angle of His.
- c) Reduction in the triggering of transient lower esophageal sphincter relaxations.
- d) Reduction in the capacity of the gastric fundus.

**81. Anti-reflux surgery is not indicated in patients with:**

- a) Esophageal stricture.
- b) Reflux associated with chronic sinusitis.
- c) Patients who failed to respond to medical therapy.
- d) Patients who respond to medical treatment but do not want to continue life-long proton pump inhibitor.

**82. The anti-reflux procedure described by Toupet is:**

- a) Anterior partial fundoplication.
- b) 300-degree posterior fundoplication.
- c) 270-degree posterior fundoplication.
- d) Complete wrapping of the fundus of stomach around the lower esophagus.

**83. Which of the following statements regarding anti-reflux surgery is INCORRECT?**

- a) The division of short gastric vessels improves the outcome following Nissen fundoplication.
- b) Partial fundoplication is associated with less wind-related problems than total fundoplication.
- c) Nissen fundoplication has a lower complication and re-operation rate than the Angelchik prosthesis.
- d) The inclusion or exclusion of the vagus nerve from the wrap makes no difference to the outcome.

- 84. A 30-year-old male underwent floppy Nissen fundoplication four hours ago. Post-operative chest X-ray showed pneumothorax on the left side. The patient is clinically well with normal oxygen saturation on 2 L of oxygen via nasal specs. The most appropriate treatment of pneumothorax IS:**
- a) Needle aspiration.
  - b) No further treatment.
  - c) Insertion of chest drain.
  - d) Wait and watch and repeat chest X-ray in 24 hours.
- 85. The use of NSAIDs and aspirin is associated with duodenal and gastric ulcer formation. The mechanism of injury is due to:**
- a) Inhibition of cyclooxygenase 2.
  - b) Inhibition of cyclooxygenase 1.
  - c) Reduction in the production of bicarbonate.
  - d) Direct damage to the gastric and duodenal mucosa.
- 86. Which of the following statements regarding Helicobacter pylori infection is INCORRECT?**
- a) It can cause antral gastritis.
  - b) It is associated with duodenal and gastric ulcers.
  - c) It is a spiral-shaped gram positive microaerophilic bacteria.
  - d) It is the most common cause of non-NSAIDs-induced duodenal ulceration.
- 87. The urea breath test used in the detection of Helicobacter pylori infection is based on the production of which enzyme?**
- a) Urease.
  - b) Peroxidase.
  - c) Hydroxylase.
  - d) Dehydrogenase.
- 88. The following anti-ulcer agent works by inhibiting acid secretion and proteolytic enzymes, and increases bicarbonate and mucus secretion:**
- a) Ranitidine.
  - b) Cimetidine.
  - c) Omeprazole.
  - d) Misoprostol.
- 89. The condition that is not associated with high serum gastrin level IS:**
- a) Pernicious anemia.
  - b) Zollinger-Ellison syndrome.
  - c) Long-term use of sucralfate.
  - d) Long-term use of proton pump inhibitors.
- 90. A 35-year-old male patient presents with recurrent duodenal ulceration, diarrhea and weight loss. Upper GI endoscopy reveals multiple duodenal ulcers. The most likely diagnosis IS:**
- a) Zollinger-Ellison syndrome.
  - b) Helicobacter pylori infection.
  - c) Insulinoma.
  - d) VIPoma.
- 91. The most sensitive diagnostic test used for the detection of gastrinoma IS:**
- a) CT scan.
  - b) Endoscopic ultrasound (EUS).
  - c) Magnetic resonance imaging (MRI).
  - d) Somatostatin receptor scintigraphy.

- 92. Which of the following statements regarding Zollinger-Ellison syndrome (ZES) is INCORRECT?**
- a) Sporadic gastrinomas are associated with good prognosis.
  - b) The duodenum is the most common extrapancreatic site of gastrinoma.
  - c) More than two-thirds of patients with ZES have other endocrine tumors.
  - d) Surgical resection of localized liver gastrinoma provides a cure rate similar to that of extrahepatic gastrinoma.
- 93. The preferred treatment of choice for the bleeding gastric ulcer at the incisura following failed endoscopic treatment IS:**
- a) Under running of the bleeding ulcer.
  - b) Local excision of ulcer.
  - c) Partial gastrectomy.
  - d) Total gastrectomy.
- 94. The treatment of choice in a patient with a bleeding gastric ulcer high on the lesser curve IS:**
- a) Total gastrectomy.
  - b) Local excision of the lesser curve.
  - c) Under running of the ulcer.
  - d) a or b.
- 95. A 25-year-old male patient presents with an upper GI bleed following heavy alcohol intake. The most likely cause of bleeding IS:**
- a) Gastric erosions.
  - b) Acute duodenal ulcer.
  - c) Mallory-Weiss tear.
  - d) Spontaneous esophageal perforation.
- 96. The most common site of spontaneous esophageal perforation is:**
- a) At the gastro-esophageal junction.
  - b) Just below the upper esophageal sphincter.
  - c) Just above the diaphragm in the right posterolateral position.
  - d) Just above the diaphragm in the left posterolateral position.
- 97. A 45 -year-old male patient presents with chest pain after a few episodes of vomiting following binge drinking over the weekend. On examination he looks unwell. His pulse rate is 90/min, BP normal and temperature 38°C. Chest X-ray shows pneumomediastinum and left-sided pleural effusion. The most likely diagnosis is:**
- a) Spontaneous pneumothorax.
  - b) Boerhaave's syndrome.
  - c) Perforated peptic ulcer.
  - d) Mallory-Weiss tear.
- 98. A 60-year-old female patient is referred by her general practitioner 48 hours after undergoing rigid esophagoscopy and dilatation of a benign post-cricoid stricture. On admission, she is tachycardiac with a pulse rate of 100/min, BP normal and temperature 38.5°C. Her white count is 15,000/mm<sup>3</sup>. An urgent CT chest and abdomen shows a contained leak. She should be managed with:**
- a) Thoracotomy and washout and chest drain insertion.
  - b) Thoracotomy, insertion of T-tube and chest tube insertion.
  - c) Conservative treatment with antibiotics, antifungals and nil by mouth.
  - d) Primary closure of esophageal perforation, washout and chest drain insertion.

**99. A 20-year-old female patient with full thickness esophageal burn and perforation following ingestion of drain-cleaning fluid is admitted to the intensive care unit. She is intubated because of respiratory compromise and is started on broad spectrum antibiotics. The best surgical treatment option in this patient is:**

- a) Esophagogastrectomy and immediate reconstruction with colonic interposition.
- b) Esophagogastrectomy and delayed reconstruction.
- c) Cervical esophagostomy, feeding jejunostomy and delayed resection and reconstruction.
- d) Esophagectomy and immediate reconstruction using gastric conduit.

**100. The diagnostic investigation of choice in patients with suspected spontaneous esophageal perforation IS:**

- a) CT scan.
- b) Chest X-ray
- c) Upper GI endoscopy.
- d) Esophageal contrast study.

**101. Morbid obesity is when the body mass index (BMI) is greater than:**

- a) 30.
- b) 35.
- c) 40.
- d) 45.

**102. Which of the following conditions does not improve following bariatric surgery?**

- a) Diabetes mellitus.
- b) Chronic cholecystitis.
- c) Gastroesophageal reflux.
- d) Obstructive sleep apnea.

**103. The pre-operative dietary measure that is used to reduce liver volume at the time of bariatric surgery IS:**

- a) Low calorie diet for 6 weeks.
- b) Very low calorie diet for 6 weeks.
- c) Very low calorie and low protein diet for 6 weeks.
- d) High carbohydrate and high protein diet for 6 weeks.

**104. A 30-year-old female patient presents to A&E with severe dysphagia following gastric band surgery. The immediate step in the management of this patient IS:**

- a) Insertion of nasogastric tube.
- b) Urgent gastroscopy and dilatation.
- c) Deflation of gastric band reservoir.
- d) Laparoscopy and removal of gastric band.

**105. The malabsorptive bariatric surgical procedure IS:**

- a) Laparoscopic vertical banded gastroplasty.
- b) Laparoscopic gastric banding.
- c) Roux-en-Y gastric bypass.
- d) Jejuna-ileal bypass.

**106. All of the following are metabolic complications associated with morbid obesity, EXCEPT:**

- a) Hypertension.
- b) Dyslipidemia.
- c) Diabetes mellitus.
- d) Hypertrophic cardiomyopathy.

**107. The ideal size of gastric pouch used in patients undergoing laparoscopic gastric banding is:**

- a) 5-10 cc
- b) 15-25 cc
- c) 50-60 cc.
- d) 100-150 cc

**108. Which of the following bariatric surgical procedures is associated with a high improvement rate in diabetes, hypertension, hypercholesterolemia and sleep apnea?**

- a) Gastric banding.
- b) Roux-en-Y gastric bypass.
- c) Vertical banded gastroplasty.
- d) Biliary pancreatic diversion.

**109. The side-effects of proton pump inhibitors include:**

- a) Headache.
- b) Diarrhea.
- c) Constipation.
- d) All of the above.

**110. The risk of developing esophageal carcinoma in Barrett's esophagus IS:**

- a) 0.5% per year.
- b) 10% per year.
- c) 1 % per year.
- d) 5 % per year.

**111. Dysphagia lusoria is due to:**

- a) Esophageal web.
- b) Aneurysm of the aorta.
- c) Esophageal diverticulum.
- d) Compression by an aberrant blood vessel.

**112. The most common type of tracheoesophageal fistula is:**

- a) Proximal end blind, distal end communicating with the trachea.
- b) Distal end blind, proximal end communicating with the trachea.
- c) Both ends blind.
- d) Both ends open.

**113. Which of the following conditions is the most likely diagnosis in a neonate presenting with continuous dribbling of saliva from the mouth?**

- a) Tracheoesophageal fistula.
- b) Esophageal atresia.
- c) Duodenal atresia.
- d) Anal atresia.

**114. Which of the following statements regarding Zollinger-Ellison syndrome is incorrect?**

- a) It is associated with intractable peptic ulcers.
- b) It is associated with high basal acid output.
- c) It is a  $\beta$ -cell tumor of the pancreas.
- d) It is associated with severe diarrhea.

**115. All of the following features are associated with gastrinoma, EXCEPT:**

- a) Diarrhea.
- b) Epigastric pain.
- c) Serum gastrin level  $>200\text{pg/mL}$ .
- d) Basal acid output (BAO) of less than 15 mEq/L.

**116. Raised gastrin levels without an associated increase in gastric acid secretions is seen in:**

- a) Gastrinoma.
- b) Gastric carcinoma.
- c) G-cell hyperplasia.
- d) Pernicious anemia.



**117. The surgical method of choice for the treatment of duodenal atresia IS:**

- a) Partial gastrectomy.
- b) Gastrojejunostomy.
- c) Bishop-Koop operation.
- d) Duodenojejunostomy / duodenoduodenostomy.

**118. Esophageal atresia:**

- a) Must be treated urgently.
- b) Is a congenital abnormality.
- c) Is not associated with tracheoesophageal fistula.
- d) All of the above

**119. Which of the following is true regarding the anatomy of the esophagus?**

- a) The narrowest point of the esophagus is at the level of the broncho-aortic constriction.
- b) The Meissner's plexus is located in the submucosa.
- c) The Auerbach's plexus is located between the longitudinal muscle and the adventitia.
- d) The serosa is the strongest layer of the esophagus.

**120. Which of the following is true of the esophageal sphincters?**

- a) The upper esophageal sphincter (UES) is mainly composed of the inferior constrictor muscle.
- b) The mean resting pressure of the UES is approximately 20 to 30 mmHg.
- c) The lower esophageal sphincter (LES) is approximately 2 to 5 cm in length.
- d) The LES can be identified by an area of hypertrophic muscle.

**121. Lifestyle modifications are thought to help with mild symptoms of gastroesophageal reflux disease (GERD). Cigarette smoking is thought to contribute to GERD by:**

- a) Decreasing LES pressure and impairing contractility
- b) Increasing acid production
- c) Decreasing the esophageal clearance of acid
- d) Increasing secondary peristalsis.

**122. Which of the following is the least important when performing a Nissen fundoplication for reflux disease?**

- a) Use of pledgets to prevent suture tears
- b) Lengthening the intraabdominal esophagus
- c) Hiatal dissection and closure
- d) Short and floppy fundoplication around the esophagus with a bougie

**123. Which of the following findings is a contraindication to anti reflux surgery (ARS)?**

- a) Presence of severe esophagitis on endoscopy
- b) A DeMeester score of 55
- c) Type III hiatal hernia seen on an esophagogram
- d) Barrett's esophagus with high-grade





- 124. Seven years after her initial ARS, a patient undergoes a reoperation for recurrence of symptoms. During the reoperation, what is the most likely finding?**
- a) Disrupted wrap
  - b) Loose wrap
  - c) Herniated wrap
  - d) Slipped wrap
- 125. Several endoscopic options exist as alternatives to surgical ARS. Trans-oral incisionless fundoplication (TIF) is an endoscopic wrap. Which of the following is true regarding TIF?**
- a) Approved for use with hiatal hernias larger than 2 cm
  - b) Performs a complete 360-degree wrap
  - c) Provides good symptom relief in the majority of patients for up to 1 year
  - d) Requires radiofrequency ablation to bulk LES with fibrosis
- 126. Which of the following is true regarding hiatal hernia repair?**
- a) A 5- to 6-cm wrap is recommended.
  - b) Mobilization of intrathoracic esophagus is required to the level of the aortic arch.
  - c) Permanent synthetic mesh is preferred for large crural defects.
  - d) Shortened esophagus can be lengthened with a Collis gastroplasty.
- 127. A 53-year-old male has typical symptoms of GERD refractory to medical management and is referred to your clinic to discuss surgical options. He has previously had a distal pancreatectomy/splenectomy from a gunshot wound and three subsequent laparotomies for adhesive bowel obstruction. What surgical option allows for satisfactory control of reflux while avoiding the abdomen?**
- a) Toupet
  - b) Hill
  - c) Dor
  - d) Belsey Mark-IV
- 128. A 55-year-old man is evaluated for dysphagia and chest pain. A barium esophagogram shows a 3-cm smooth filling defect in the distal end of the esophagus. Which of the following is true of his condition?**
- a) Cystic transformation or central necrosis is often associated with these lesions.
  - b) Patients often have hematemesis or chronic anemia because of ulceration.
  - c) Endoscopic ultrasound (EUS) will show a hypoechoic mass in the submucosa.
  - d) Endoscopic biopsy should be performed to rule out malignancy.
- 129. Which of the following most likely contributes to GERD?**
- a) Intraabdominal LES length of 3 cm
  - b) LES resting pressure of 12 mmHg
  - c) Thirty percent tertiary waveforms
  - d) Total LES length of 5 cm
- 130. A 28-year-old male presents with symptoms of dysphagia to solids and liquids with regurgitation. Esophogography shows distal narrowing to a point. What is the most likely finding on high-resolution manometry?**
- a) Aperistalsis without relaxation of the LES with deglutition
  - b) Uncoordinated peristalsis
  - c) Esophageal pressure of 250 mmHg
  - d) Contraction wave of 9 s

- 131. The above patient decides to undergo surgical therapy for his diagnosis. Which of the following is true regarding the surgical management of achalasia?**
- a) Nonsurgical therapy results in durable relief of dysphagia.
  - b) Myotomy should extend at least 5 cm cephalad and 2 cm caudad onto the stomach.
  - c) Addition of anti-reflux component to operation is not required.
  - d) Accidental esophagostomy can be repaired primarily with continued use of the same myotomy site.
- 132. A patient arrives at the emergency department 8 h after balloon dilation of her esophagus with complaints of dysphagia and chest pain. She was found to be febrile, tachycardiac, and normotensive. Esophagography showed “bird’s beak” narrowing and a leak at the distal end of the esophagus with contrast material in the left side of the chest. After fluid resuscitation and antibiotics, which of the following is the most appropriate management?**
- a) Nasogastric tube decompression and observation
  - b) Endoscopic evaluation of the injury and stenting
  - c) Left thoracotomy, primary repair, myotomy, and drain placement
  - d) Laparotomy, primary repair, and gastrostomy tube placement
- 133. A 42-year-old female presents with symptoms of dysphagia. Thus far, a workup has included a normal upper endoscopy, esophagogram, and manometry. She is frustrated with the lack of answers and is referred to your clinic by her gastroenterologist. You order a computed tomography (CT) of chest, which helps diagnose her with *dysphagia lusoria*. What findings would be present on the CT scan?**
- a) Left pulmonary artery arising from the right pulmonary artery
  - b) Right subclavian artery arising from the descending thoracic aorta
  - c) Double aortic arch
  - d) Left common carotid arising from the brachiocephalic artery
- 134. A 40-year-old woman complains of chest pain and dysphagia. Manometric studies show simultaneous multi-peaked contractions of 140 mmHg, lasting 4 to 5 s, and normal LES relaxation. Which of the following is true of her disease?**
- a) Esophagography will show a “corkscrew esophagus.”
  - b) It can be caused by infection with *Trypanosoma cruzi*.
  - c) It is the result of fibrous replacement of the esophageal smooth muscle.
  - d) It is also known as “vigorous” achalasia.
- 135. A 68-year-old male presents with symptoms of dysphagia and halitosis. An esophagogram displays outpouching at the cricoid on lateral view. Which of the following is true regarding his condition?**
- a) It is a true diverticulum.
  - b) Endoscopic esophagodiverticulostomy is best for small, <2 cm, diverticula.
  - c) Diverticulectomy alone is sufficient.
  - d) Diverticulopexy and myotomy are preferred approaches.

- 136. A 65-year-old man with a 10-year history of heartburn undergoes an endoscopy with a distal esophageal biopsy, which shows intestinal columnar metaplasia. Which of the following is true of his condition?**
- a) The metaplastic cells are more prone to reflux injury than the squamous epithelium.
  - b) The condition is found in 50% of patients with GERD.
  - c) *Helicobacter pylori* is associated with the condition.
  - d) More than 70% of cases are found in men in their fifth and sixth decades
- 137. The patient in the above question is found to have high-grade dysplasia on follow-up surveillance. Which of the following is true regarding Barrett's esophagus with high-grade dysplasia?**
- a) Surveillance endoscopy every 6 months is acceptable.
  - b) Photodynamic therapy (PDT) is superior to radiofrequency ablation.
  - c) Surveillance protocol dictates four-quadrant biopsies at the z-line.
  - d) His risk of progression to adenocarcinoma is 6% per year.
- 138. An otherwise healthy 40-year-old man seeks treatment in the emergency department because of hematemesis after a night of binge drinking and retching. Which of the following is true of his condition?**
- a) It is caused by a pulsion diverticulum.
  - b) Endoscopy should not be performed because of the increased risk for perforation.
  - c) The bleeding is from an arterial source.
  - d) Surgical resection is often required.
- 139. A 60-year-old man has GERD and episodic dysphagia. An upper gastrointestinal contrast-enhanced study shows a type I hiatal hernia and thin band-like narrowing of the distal end of the esophagus. Which of the following is true of his condition?**
- a) Oral dilation is the treatment of choice.
  - b) It is the result of hypertrophy of the circular muscle layer.
  - c) Endoscopic mucosal resection is recommended.
  - d) There is squamous mucosa above and below the narrowing.
- 140. With regard to squamous cell carcinoma of the esophagus, which of the following is true?**
- a) Worldwide, it is the most common type of esophageal cancer.
  - b) It affects mainly Caucasian males.
  - c) It has a strong association with columnar epithelial metaplasia.
  - d) There is no proven association with alcohol or tobacco.

- 141. A 75-year-old white man with a history of alcohol abuse, 40-pack-per year tobacco use, and long-standing GERD controlled by antacids is evaluated for dysphagia and weight loss. Esophagography shows an apple core lesion at the distal end of the esophagus. Which of the following is true regarding further workup?**
- a) Endoscopic biopsy should be avoided because of the risk for perforation.
  - b) CT is excellent for tumor staging.
  - c) Positron emission tomography (PET) is an excellent tool for staging and can be used as a single diagnostic modality.
  - d) EUS is more sensitive than CT for evaluating the celiac lymph nodes.
- 142. The patient in pervious question underwent EUS that showed a T2 lesion. The biopsy specimen is positive for adenocarcinoma of the esophagus. His chance of having a positive lymph node is:**
- a) 20%
  - b) 40%
  - c) 60%
  - d) 80%.
- 143. The previous patient undergoes neoadjuvant chemo-radiation therapy. Which of the following is true regarding multimodality therapy?**
- a) A complete histologic response occurs in approximately 25% of patients.
  - b) Squamous cell carcinoma and adenocarcinoma cell types have similar response rates to radiation therapy.
  - c) Survival beyond 5 years has not been reported in patients with stage IV disease.
  - d) Cisplatin-based combination therapy is no longer used because of the high rate of neuropathy.
- 144. Regarding transhiatal esophagectomy, which of the following is true?**
- a) Three incisions are required: cervical, thoracic, and abdominal.
  - b) A gastric conduit is preferred, and the blood supply is based on the right gastroepiploic artery.
  - c) More lymph nodes can be harvested than with en- bloc esophagectomy.
  - d) A substernal route of the replacement conduit is preferred because of the shorter route and improved function.
- 145. An 88-year-old female with known advanced adenocarcinoma of the mid-esophagus presents with progressive dysphagia and is found on esophagogram to have a severe narrowing of her distal esophageal lumen. Which of the following is true regarding palliation of dysphagia in esophageal carcinoma?**
- a) Covered stents have less migration than uncovered stents.
  - b) PDT provides good relief in bulky, deeply penetrating tumors.
  - c) Neodymium: yttrium-aluminum-garnet (Nd:YAG) laser ablation is effective in proximal lesions.
  - d) Chemo-radiation provides immediate relief.

- 146. The patient in the above question undergoes serial dilation and Nd:YAG ablation. She is observed overnight for symptoms. The next morning, she complains of chest pain, is febrile to 102.4°F, and has a heart rate of 128 beats/min. Esophagogram confirms extravasation of contrast. What is the most common cause of esophageal perforation?**
- a) Iatrogenic      b) Trauma      c) Cancer      d) Boerhaave's syndrome
- 147. Which of the following is true regarding the management of esophageal perforation?**
- a) The distal esophagus is best approached through the right chest.  
b) Cervical perforations occur most commonly at the thoracic inlet.  
c) Primary repair alone is sufficient in early perforation.  
d) Diversion and wide drainage are best in high-risk patients.
- 148. A 45-year-old man arrives at the emergency department after ingesting lye in a suicide attempt. Which of the following is true?**
- a) Injury to the esophagus is the result of coagulative necrosis.  
b) Endoscopy should not be performed within the first 72 h because of the risk for perforation.  
c) The lye should be neutralized with milk or egg whites if the patient is seen within the first hour of ingestion.  
d) For a long-segment interposition graft, the colon is the preferred conduit.
- 149. A 66-year-old man with congestive heart failure and emphysema reports substernal burning and regurgitation after meals and at bedtime. He has had partial relief of his symptoms with ranitidine that he has purchased over the counter. Esophagoscopy has revealed distal esophagitis. Which of the following is the most appropriate next step?**
- a) Refer the patient for laparoscopic Nissen fundoplication  
b) Schedule the patient for 24-hour pH monitoring and esophageal manometry studies to confirm that patient has GERD  
c) Prescribe a PPI  
d) Reassure that the symptoms will improve and that some breakthrough symptoms are expected
- 150. A 51-year-old woman with a history of hypertension and hyperlipidemia presents with 3-month history of daily substernal chest pain and vague abdominal discomfort. She has been prescribed a PPI by her primary care physician without relief of symptoms. Her upper GI endoscopy revealed a small hiatal hernia but no evidence of esophagitis. Which of the following is the best next step?**
- a) Barium esophagogram to evaluate her hiatal hernia  
b) Refer the patient for evaluation of atypical chest pain and to rule out cardiac origin of symptoms  
c) Refer the patient to a psychiatrist for possible conversion reaction  
d) Perform a computed tomography (CT) scan of the chest and abdomen

- 151. A 50-year-old man with the diagnosis of GERD for 3 years has been managed with ranitidine with partial symptoms relief. He has some residual symptoms that prompted an upper GI endoscopy. At endoscopy with biopsy, Barrett's esophagus without dysplasia was identified. Which of the following is the best treatment recommendation for this patient at this time?**
- a) Stop the ranitidine and initiate low-dose PPI
  - b) Advise the patient to have an esophagectomy to prevent cancer progression
  - c) Keep patient on his H<sub>2</sub>-blocker and schedule him for follow-up endoscopy in 3 months
  - d) Recommend Nissen fundoplication because it is a more effective treatment against Barrett's progression
- 152. Which of the following factors is NOT a prognostic factor for patients with esophageal perforation?**
- a) Non-contained leakage
  - b) Size of perforation
  - c) White blood cell count
  - d) Time interval between perforation and treatment
- 153. Which of the following statements regarding esophageal perforation is TRUE?**
- a) Treatment protocol is well defined and based on high-quality clinical evidence
  - b) Non-operative management is best
  - c) Operative repair is best when perforation is diagnosed within 24 hours
  - d) Percutaneous drainage is best when it is performed within 24 hours
- 154. A 53-year-old man is found to have invasive squamous cell carcinoma of the distal esophagus. Imaging studies including PET-CT scan and EUS suggest that the disease is resectable. Which of the following is the best treatment approach for this patient?**
- a) Endoscopic mucosal resection
  - b) Induction chemotherapy with epirubicin, cisplatin, and fluorouracil (5-FU) followed by esophagectomy and postoperative chemotherapy
  - c) Induction chemoradiation therapy with carboplatin and external beam radiation therapy followed by surgical resection
  - d) Radiation therapy and trastuzumab
- 155. Which of the following is a risk factor for adenocarcinoma of the esophagus?**
- a) Smoking
  - b) Alcohol consumption
  - c) Gastroesophageal reflux
  - d) Nitrite- and nitrate-containing foods
- 156. Which of the following is an advantage of transhiatal esophagectomy over the Ivor– Lewis esophagectomy?**
- a) The Ivor– Lewis approach is associated with less pulmonary complications but leakages are better tolerated with the transhiatal approach.
  - b) The transhiatal approach is less stressful from the physiologic standpoint.
  - c) The transhiatal approach is a better approach to tumors in the mid esophagus.
  - d) The transhiatal approach avoids an abdominal operation.

**157. Which of the following statements regarding squamous cell carcinoma of the esophagus is accurate?**

- a) Squamous cell carcinoma of the esophagus incidence has dramatically increased
- b) Gastroesophageal reflux disease is a major risk factor
- c) This tumor is most amenable to surgical resection when it is located in the cervical esophagus
- d) This tumor is highly responsive to radiation therapy

**158. Which of the following is a major limitation to endoscopic stent placement for the palliation of esophageal cancer?**

- a) Recurrent esophageal obstruction
- b) Patients often have a several-week delay before symptom improvement occurs.
- c) Endoscopic stent placement eliminates the possibility of surgery at a later time.
- d) The presence of TEF is a contraindication.

**159. A 45-year-old man is diagnosed with an exophytic adenocarcinoma of the distal esophagus that penetrates to but does not penetrate through the muscularis propria and biopsy reveals low-grade histology. A PET CT demonstrates localized disease in the distal esophagus without distant metastasis. Which of the following is the most appropriate treatment?**

- a) Placement of endoscopic stent to relieve the obstruction and initiate definitive chemoradiation therapy
- b) Initiation of chemoradiation followed by esophagectomy
- c) Treat with radiation therapy and trastuzumab
- d) Nutritional therapy for 8 weeks followed by esophagectomy

**160. One month after an antrectomy with Billroth II reconstruction, a patient presents with colicky abdominal pain, distention, bilious emesis, and failure to pass gas. This most likely represents:**

- a) Blind loop syndrome
- b) Afferent loop syndrome
- c) Reflux gastritis
- d) Efferent loop syndrome

**161. Which of the following pairs of diagnostic measures and their role in the management of a patient with gastric cancer is correct?**

- a) Physical examination/identify occult metastatic disease
- b) Esophagogastroduodenoscopy (EGD) with endoscopic ultrasound (EUS)/examine for loco-regional staging
- c) CT scan/monitor for response to neoadjuvant therapy
- d) Positron emission tomography (PET) scan/detect intraabdominal metastatic disease

**162. Which of the following is true regarding dumping syndrome?**

- a) Late dumping syndrome is the result of a massive influx of high osmolarity contents into the intestines.
- b) It is more common after Billroth I reconstructions versus Billroth II.
- c) It can include cardiovascular effects such as palpitations, diaphoresis, fainting, and flushing.
- d) Early dumping syndrome is made worse by high-carbohydrate foods



**163. Concerning duodenal diverticula, which of the following statements is false?**

- a) They are twice as common in women as in men.
- b) Duodenal diverticula are the second most common congenital diverticula of the intestine after Meckel's diverticulum.
- c) The majority of duodenal diverticula are found in the peri-ampullary region.
- d) Most of them are asymptomatic and found incidentally.

**164. Which hormone is matched with the correct diagnostic/ therapeutic function?**

- a) Cholecystokinin (CCK)/treatment of esophageal variceal bleeding
- b) Somatostatin/relief of spasm of the sphincter of Oddi
- c) Gastrin/measurement of maximal gastric acid secretion
- d) Glucagon/provocative test for gastrinoma

**165. A patient with gastric outlet obstruction and prolonged vomiting has which of the following metabolic abnormalities?**

- a) Hypochloremic, hyperkalemic metabolic alkalosis
- b) Hyperchloremic, hypokalemic metabolic acidosis
- c) Hyponatremic, hypokalemic metabolic acidosis
- d) Hypochloremic, hypokalemic metabolic alkalosis

**166. Which of the following statements is true with regard to the arterial blood supply of the stomach?**

- a) The left gastroepiploic artery is the main blood supply to the gastric conduit used in esophagectomies.
- b) Ligation of the left gastric artery can result in acute left-sided hepatic ischemia.
- c) The stomach is susceptible to ischemia because of poor collateral circulation. D. The inferior phrenic and short gastric arteries provide significant blood supply to the body of the stomach.

**167. Choose the correct type of vagotomy with the appropriate level of vagal transection from the pairs listed below:**

- a) Truncal vagotomy/criminal nerve of Grassi
- b) Highly selective vagotomy/anterior and posterior vagal trunks below the celiac and hepatic branches
- c) Selective vagotomy/anterior and posterior vagal trunks above the celiac and hepatic branches
- d) Parietal cell vagotomy/terminal branches of the nerve of Latarjet.

**168. Concerning the treatment of patients with Zollinger-Ellison syndrome, which of the following statements is true?**

- a) Operative treatment of associated hyperparathyroidism takes precedence over abdominal surgery.
- b) Pancreatic tumors should not be removed by enucleation.
- c) Duodenal tumors usually require pancreaticoduodenectomy.
- d) Antrectomy is indicated if the tumor cannot be localized.

**169. Which of the following clinical conditions is not associated with delayed gastric emptying?**

- a) Hypocalcemia
- b) Scleroderma
- c) Hyperglycemia
- d) Zollinger-Ellison syndrome

**170. Which of the following conditions is not associated with *Helicobacter pylori* infection?**

- a) Duodenal ulcer
- b) Gastric cancer
- c) Mucosa-associated lymphoid tissue (MALT) lymphoma
- d) Gastroesophageal reflux disease

**171. A 45-year-old man requires surgery for an intractable duodenal ulcer. Which operation best prevents ulcer recurrence?**

- a) Subtotal gastrectomy
- b) Truncal vagotomy and pyloroplasty
- c) Truncal vagotomy and antrectomy
- d) Selective vagotomy

**172. A 75-year-old man taking NSAIDs for arthritis has an acute abdomen and pneumoperitoneum. His symptoms are 6 h old, and his vital signs are stable after the infusion of 1 L of normal saline solution. What should be the next step in the management of this patient?**

- a) CT of the abdomen
- b) Antisecretory drugs, broad-spectrum antibiotics, and surgery if he fails to improve in 6 h
- c) Antisecretory drugs, antibiotics for *H. pylori*, and surgery if he fails to improve in 6 h
- d) Surgery.

**173. During an operation for a bleeding duodenal ulcer, three-point “U” stitches are placed to ligate which of the following arteries after longitudinal pyloroduodenotomy?**

- a) Common hepatic, right gastric, and gastroduodenal arteries
- b) Proximal and distal gastroduodenal and transverse pancreatic arteries
- c) Right gastric, gastroduodenal, and right gastroepiploic arteries
- d) Right gastric and anterior and posterior inferior pancreaticoduodenal arteries

**174. Which of the following conditions is not associated with gastric cancer?**

- a) *H. pylori* infection
- b) Hereditary nonpolyposis colorectal cancer
- c) Adenomatous gastric polyps
- d) Fundic gland polyps

**175. With regard to the surgical treatment of gastric adenocarcinoma, which of the following statements is true?**

- a) Total gastrectomy for antral lesions results in longer survival than does partial gastrectomy.
- b) Routine splenectomy does not improve survival rates.
- c) Extended lymph node dissection improves survival rates in patients with stages I and II lesions.
- d) Total gastrectomy for palliation is contraindicated.

**176. With regard to gastrointestinal stromal tumors (GISTs), which of the following statements is incorrect?**

- a) A combination of cellular morphology on hematoxylin– eosin staining and KIT immunohistochemistry are required for the diagnosis of GIST.
- b) After the small intestine, the stomach is the second most common location for GISTs, followed by the colon and rectum.
- c) The majority of GISTs have an activating mutation in the *KIT* oncogene.
- d) GISTs are usually resistant to conventional chemotherapy and radiation therapy.

**177. Which of the following statements regarding Crohn's disease of the duodenum is false?**

- a) Duodenal Crohn's disease accounts only for 2%–4% of all patients with Crohn's disease.
- b) Because of its location, operative intervention is frequently needed for duodenal Crohn's disease.
- c) When an operation is required, a bypass such as gastrojejunostomy is performed rather than duodenal resection.
- d) In well-selected patients, stricturo-plasty can be carried out with good results.

**178. With regard to gastric volvulus, which of the following statements is true?**

- a) The Bor chardt's triad includes acute epigastric pain, retching without vomiting, and inability to pass an NG tube.
- b) Its symptoms consist of severe nausea with bilious emesis.
- c) It more frequently involves rotation around the axis that bisects the greater and lesser curvatures.
- d) Its surgical management is via a transthoracic approach.

**179. Which of the following statements is true regarding the management of upper GI bleeding?**

- a) The return of clear fluid from an NG lavage rules out upper GI bleeding.
- b) Primary hemostasis is only achieved in 60% of patients by endoscopy alone.
- c) The majority of upper GI bleeding will require intervention.
- d) Patients with an upper GI bleed should undergo endoscopy within 24 h of presentation.

**180. Which of the following statements is true regarding gastric MALT lymphoma?**

- a) Negative histologic *H. pylori* testing confirms an *H. pylori*-negative MALT lymphoma.
- b) Less than 10% of gastric lymphomas have associated *H. pylori* infection.
- c) Upper GI endoscopy with gastric biopsy for the determination of the presence of *H. pylori* and the histologic type of lymphoma is the diagnostic test of choice.
- d) Surveillance includes repeat endoscopy in 6 months to document clearance of the infection.

**181. Which of the following statements about high-grade gastric lymphoma is true?**

- a) Diffuse large B-cell lymphoma is the second most common gastric lymphoma after MALT lymphoma.
- b) The addition of surgery to chemotherapy alone has been shown to improve outcomes.
- c) Hemorrhage is a frequent complication of chemotherapy.
- d) Surgical treatment is usually reserved for patients with limited gastric disease, localized persistent lymphoma, or complications associated with nonsurgical treatment.

**182. Regarding gastric varices, which of the following is false?**

- a) Gastric varices develop via increased flow and pressure transmitted through the short and posterior gastric veins.
- b) Isolated gastric varices are the result of splenic vein thrombosis.
- c) Gastric varices are more often associated with generalized portal hypertension than with splenic vein thrombosis.
- d) Isolated gastric varices should be managed with endoscopic banding and sclerotherapy.

**183. A 35-year-old man is diagnosed with duodenal ulcer. He asks about the indications for surgical therapy. For which of the following situations is surgical treatment indicated?**

- a) Development of diabetes mellitus
- b) Persistent *H. pylori* infection
- c) Chronic gastric outlet obstruction
- d) Need for taking NSAIDs

**184. Which of the following is correct regarding medical therapy of PUD?**

- a) PPI and H<sub>2</sub> antagonists have approximately equal efficacy in controlling ulcer symptoms
- b) Prostaglandin compounds such as misoprostol promote resolution of gastric ulcers by inhibiting the proton pump, thereby decreasing acid production
- c) NSAID-induced ulcers are sometimes associated with *H. pylori* and require antibiotics treatment
- d) H<sub>1</sub> receptors are associated with gastric acid secretion

**185. A 33-year-old stock broker has mid-abdominal pain throughout the day, which is relieved somewhat by meals and antacid intake. A gallbladder ultrasound is negative. He undergoes an upper GI endoscopy which reveals a duodenal ulcer. Which of the following best describes characteristics of duodenal ulcer disease?**

- a) It is rarely associated with hypersecretion of acid
- b) It is a disease of multiple etiologies
- c) Complete eradication of *H. pylori* is difficult and associated with frequent recurrences
- d) *H. pylori* infections usually occur in the gastric cardia

**186. A 41-year-old woman has progressive epigastric pain which has improved somewhat with PPI. She underwent upper endoscopy and a gastric ulcer is diagnosed. Which of the following best describes a characteristic of gastric ulcers?**

- a) Type I gastric ulcers are usually not associated with excess acid secretion
- b) Type I gastric ulcers are usually located in the prepyloric region of the stomach
- c) Type II gastric ulcers are usually associated with gastroesophageal reflux
- d) Type V gastric ulcers are associated with chronic steroid usage

**187. Which of the following is a true statement regarding the surgical treatment of PUD?**

- a) Most surgery for PUD is done to treat patients after failure of pharmacologic therapy
- b) Ulcer surgeries remain highly effective for the control of acid secretion
- c) With improved pharmacologic therapy, surgery has been eliminated in the treatment of PUD
- d) Surgery for PUD results in better quality of life than medical therapy

**188. A 54-year-old man presents with a type I gastric ulcer. He was given 2 weeks of antibiotics therapy for H. pylori eradication and 4 weeks of PPI therapy. Three months later, he presents with progressive weight loss and gastric outlet obstruction. Which of the following is a true statement regarding this sequence of events?**

- a) His H. pylori infection likely recurred
- b) Biopsy of his ulcer at his initial evaluation might have prevented the gastric outlet obstruction
- c) Two weeks of H. pylori treatment was insufficient for eradication of H. pylori
- d) Highly selective vagotomy should have been performed at the time of his ulcer diagnosis

**189. Which of the following is a true statement regarding operations for peptic ulcer disease?**

- a) Truncal vagotomy and antrectomy are associated with lower rate of ulcer recurrence and better postoperative functional outcomes than truncal vagotomy and pyloroplasty
- b) Ulcer recurrence is the most important concern when selecting an ulcer operation for a patient with refractory PUD
- c) Complications following vagotomy are extremely rare and do not influence the decision in operative treatment selection
- d) Patients who develop recurrence following vagotomy and antrectomy should undergo gastric acid analysis and serology testing for gastrin levels

## B- Small Bowel

**1- The small intestine typically reabsorbs what percentage of the fluid that passes through its lumen?**

- a) 10
- b) 20
- c) 40
- d) 80

- 2- With regard to ileostomy physiology, which of the following statements is true?
- a) Daily output from an established ileostomy is approximately 1500 mL.
  - b) Ileostomy output can increase by 50% at times of dietary indiscretion.
  - c) With dehydration, the concentration of sodium output from the ileostomy rises.
  - d) Compared with normal ileal fluid, ileostomy effluent contains a 100-fold increase in aerobes and a 2500-fold increase in coliform bacteria.
- 3- A patient undergoes a contrast radiograph of the small bowel for evaluation of intestinal pseudo-obstruction. The average transit time from the duodenum to the cecum is:
- a) 30 min
  - b) 1 h
  - c) 3 h
  - d) 5 h
- 4- Which of the following statements about small bowel motility is true?
- a) Oral feeding stimulates the production of migrating motor complexes (MMCs).
  - b) If motility is impaired, absorption of nutrients is similarly affected.
  - c) Vagotomy-induced diarrhea is the result of increased secretion secondary to denervation.
  - d) Segmental bowel resection causes a temporary interruption of MMCs, but the clinical results are usually insignificant.
- 5- Which extraintestinal manifestations of Crohn's disease would you not expect to subside after resection of the involved segment of bowel?
- a) Erythema nodosum
  - b) Arthritis
  - c) Ankylosing spondylitis
  - d) Anemia
- 6- A patient with Crohn's disease and obstructing chronic fibrotic small bowel strictures not responding to medical therapy is taken to the operating room. Appropriate surgical management includes:
- a) Resecting the diseased segments with frozen section evaluation of the margins
  - b) Avoiding bowel resection for long strictures.
  - c) Resecting bowel to palpably normal tissue
  - d) Resecting only the obviously obstructing segment and preserving as much bowel as possible
- 7- Which of the following statements is true of the microscopic appearance of Crohn's disease?
- a) The disease is confined to the mucosa and submucosa.
  - b) Identification of non-caseating granulomas is required for diagnosis.
  - c) Granulomas demonstrating caseation without acid-fast bacilli confirm the diagnosis.
  - d) Marked lymphangiectasia is a prominent microscopic feature.

**8- Diarrhea is one of the common clinical manifestations of Crohn's disease.**

**Which of the following statements is true regarding this manifestation?**

- a) Most patients experience intermittent bloody diarrhea.
  - b) Diarrhea is the result of segmental inflammation, leading to decreased small bowel absorption.
  - c) Decreased bile salt absorption in the diseased terminal ileum produces choleric diarrhea.
  - d) Diarrhea is frequently described as mucus or pus like.
- 9- A 26-year-old woman with a history of Crohn's disease is experiencing a flare of her disease. She is 6 weeks pregnant. Which of the following is true regarding the use of corticosteroids in patients with inflammatory bowel disease?**
- a) Corticosteroids are unsafe to use in pregnant patients with an acute flare of Crohn's disease.
  - b) Corticosteroids effectively maintain remission of Crohn's colitis and ulcerative colitis during pregnancy.
  - c) Corticosteroids used in enema (topical) form are not absorbed into the systemic circulation and therefore have no systemic side effects.
  - d) Intravenous corticosteroids and adrenocorticotrophic hormone (ACTH) are equally effective in patients with acute severe ulcerative colitis that is refractory to oral treatment during pregnancy.
- 10- During resection of the terminal ileum and ascending colon for Crohn's disease, a 38-year-old man had 3 feet of small bowel removed. Six months later, he presents complaining of persistent diarrhea. Contrast studies and endoscopy are normal. The most likely etiology is:**
- a) Malabsorption of bile salts
  - b) Reactivation of Crohn's disease
  - c) Gastric acid hypersecretion
  - d) Bacterial overgrowth
- 11- Nutritional support may be beneficial in patients with inflammatory bowel disease refractory to medical treatment. Which of the following statements is true?**
- a) Bowel rest and parenteral nutrition are the primary therapy for Crohn's colitis.
  - b) In those with Crohn's disease and a high-output fistula, total parenteral nutrition (TPN) promotes closure of the fistula.
  - c) TPN helps prevent the need for total colectomy in patients with ulcerative colitis.
  - d) In patients with Crohn's ileitis, TPN is superior to enteral nutrition for providing an adequate caloric replacement.



- 12- A 30-year-old woman has a bowel obstruction secondary to Crohn's disease. She has undergone multiple previous small bowel resections. At laparotomy, multiple strictures are noted throughout her bowel. Which of the following statements is true?**
- a) Stricturoplasty should be considered only for patients with an isolated stricture.
  - b) Segmental bowel resections are preferable to stricturoplasty for the current laparotomy.
  - c) Re-stricture at the stricturoplasty site has been seen in less than 5% of patients.
  - d) Anastomotic leakage and fistula formation following stricturoplasty have been seen in 50% of cases
- 13- Which of the following is true of peutz-Jeghers syndrome?**
- a) It is a sex-linked recessive familial disease characterized by intestinal polyposis and mucocutaneous hyperpigmentation.
  - b) Polyps are most frequently located in the jejunum and ileum but can also be found in the stomach, duodenum, colon, and rectum.
  - c) Surgical treatment includes resecting all bowel containing polyps.
  - d) Peutz-Jeghers polyps have a high malignant potential
- 14- Which of the following statements is true concerning the causes of intestinal obstruction?**
- a) Among adults, 20% of intussusception cases are associated with a pathologic process, most commonly a tumor.
  - b) A leading cause of bowel obstruction is early postoperative adhesions.
  - c) Adhesions account for more than 50% of cases of small bowel obstruction.
  - d) Richter's hernia cannot lead to complete obstruction.
- 15- Which of the following is true concerning postoperative ileus (POI)?**
- a) The presence of peritonitis at the time of surgery delays return of normal function.
  - b) The use of metoclopramide hastens the return of motility.
  - c) Contrast radiographic studies have no role in differentiating early postoperative bowel obstruction from POI.
  - d) The judicious use of intravenous patient-controlled analgesia has no effect on the return of small bowel motor activity.
- 16- Which of the following is true regarding the initial treatment of patients with acute, complete small bowel obstruction?**
- a) Immediate surgery is warranted as soon as the diagnosis is made.
  - b) Nasogastric decompression should be used for as long as possible in patients with complete small bowel obstruction to allow resolution.
  - c) The presence of fever, tachycardia, localized pain, or leukocytosis suggests strangulation and warrants prompt surgery.
  - d) All patients with complete small bowel obstruction require blood and plasma for resuscitation.



**17- Rigler's triad in abdominal X-ray include the following except:**

- a) Small bowel obstruction
- b) Pneumobilia
- c) Gall stone
- d) Colonic obstruction

**18- An 85-year-old woman has severe abdominal pain and distention. She is tachycardiac, oliguric, and acidotic. Abdominal radiographs show pneumobilia and a mass. What is the best surgical management for this patient during an exploratory laparotomy?**

- a) Resection of the mass
- b) "Milking" the mass distally past the obstruction
- c) Cholecystectomy, enterotomy, and removal of the mass
- d) Enterotomy and removal of the mass

**19- A 4-year-old male presents with blood per rectum. Technetium-99 pertechnetate scintigraphy suggests a bleeding Meckel's diverticulum. Which of the following is the appropriate treatment?**

- a) Ileal segmental resection with primary re-anastomosis
- b) Diverticulectomy
- c) Medical management with proton pump inhibitor and octreotide
- d) Angiography for embolization

**20- Which of the following statements is true regarding duodenal, jejunal, and ileal diverticula?**

- a) Duodenal diverticula are true diverticula.
- b) Duodenal diverticula are often multiple, whereas jejuna diverticula are often solitary.
- c) Asymptomatic duodenal diverticula should be resected to avoid potentially serious complications.
- d) Asymptomatic jejunal diverticula do not require therapy.

**21- What is the most common finding with small bowel tumors?**

- a) Hematemesis
- b) Abdominal pain
- c) Perforation
- d) Intussusception

**22- What is the most common symptomatic small bowel tumor?**

- a) Lipoma
- b) Gastrointestinal stromal tumor (GIST)
- c) Hamartoma
- d) Hemangioma

**23- What is the most common primary malignant small bowel tumor?**

- a) Carcinoid
- b) Lymphoma
- c) GIST
- d) Adenocarcinoma

**24- A 35-year-old man presents with obstructive symptoms and, on exploration, is found to have a mid-jejunal mass. Frozen section reveals a GIST. Which of the following is true regarding GISTs?**

- a) GISTs originate from the interstitial cells of Cajal.
- b) The most frequent site of GISTs is the small bowel.
- c) Nodal status is the most reliable predictor of aggressive behavior.
- d) Postoperative imatinib mesylate is used in all patients to reduce recurrence.

- 25- A 54-year-old man reports with a 2-month history of abdominal pain and significant weight loss. Upper endoscopy, colonoscopy, and CT were all normal. A barium upper GI study with small bowel follow-through identified a mass in his mid-ileum. At surgical exploration, a carcinoid tumor, confirmed by frozen section, was found in the mid-ileum. Which statement is true regarding his condition?**
- a) Prognosis is primarily related to lymph node status.
  - b) The cell of origin is the Kulchitsky cell.
  - c) The ileum is the most common site of origin.
  - d) A 1-cm distal ileum carcinoid tumor should be treated with formal right hemicolectomy.
- 26- Which of the following is true of carcinoid syndrome?**
- a) Cardiac manifestations commonly affect the mitral and aortic valves.
  - b) 5-Hydroxyindole acetic acid (5-HIAA) is the active metabolite leading to carcinoid syndrome symptoms.
  - c) Diarrhea affects less than 30% of patients.
  - d) Functional carcinoid tumors divert dietary tryptophan into the production of serotonin.
- 27- During a routine appendectomy, a 1-cm mass is found at the tip of the appendix. Frozen section is concerning for carcinoid tumor. What is the best treatment option for this patient?**
- a) Right hemicolectomy
  - b) Medical therapy with octreotide
  - c) Neoadjuvant therapy with streptozotocin and 5-fluorouracil
  - d) Appendectomy
- 28- On abdominal exploration for a suspected carcinoid tumor, a 2-cm mass is found in the terminal ileum. No liver lesions were detected on preoperative imaging or with intraoperative palpation. What is the best treatment option for this patient?**
- a) Appendectomy
  - b) Right hemicolectomy
  - c) Medical therapy with octreotide
  - d) Neoadjuvant therapy with streptozotocin and 5-fluorouracil
- 29- Which of the following is true about the use of somatostatin in patients with carcinoid tumors?**
- a) Somatostatin may be used as a provocative agent before measuring 5-HIAA levels.
  - b) Somatostatin receptor scintigraphy is more effective than CT or magnetic resonance imaging (MRI) in localizing primary and metastatic carcinoid tumors.
  - c) Somatostatin is ineffective for the management of carcinoid crisis.
  - d) Somatostatin therapy improves survival in patients with carcinoid syndrome.

- 30- A 56-year-old woman had a right hemicolectomy for villous adenoma of the cecum. Five days after surgery her surgical wound becomes red and tender. She underwent pelvic radiation therapy 5 years ago for cervical cancer. The surgeon opens her wound with immediate drainage of purulent fluid. The drainage persists as a continuous brown liquid discharge over the next day. Which of the following is the most likely diagnosis?**
- a) Simple wound infection
  - b) Clostridial infection
  - c) Anastomotic leakage with an enterocutaneous fistula
  - d) Dehiscence
- 31- Which of the following statements regarding short bowel syndrome (SBS) is true?**
- a) Resection of up to 70% of the bowel can be tolerated if the terminal ileum and ileocecal valve are preserved.
  - b) Diarrhea is best controlled by the administration of medium-chain triglycerides.
  - c) The administration of oral bile salts is of central importance in controlling steatorrhea.
  - d) Vagotomy and pyloroplasty and reversal of a segment of bowel are the two most important operations for the early management of SBS.
- 32- During a small bowel resection, you have finished your anastomosis and have just closed the mesenteric defect. As you are closing the midline wound, you see a large hematoma in the area of the mesenteric defect. Choose the best treatment option.**
- a) Observation alone
  - b) If hematoma is expanding, open, explore, and obtain hemostasis
  - c) Resect the involved segment and redo the anastomosis
  - d) Proceed with closure if the hematoma is expanding but the anastomosis appears perfused
- 33- Peyer's patches are primarily responsible for the local synthesis of:**
- a) IgD
  - b) IgE
  - c) IgG
  - d) IgA
- 34- Which of the following statements regarding tuberculous enteritis is incorrect?**
- a) Primary infection usually results from the ingestion of non-pasteurized milk contaminated with *Mycobacterium bovis*.
  - b) Secondary infection results from the ingestion of bacilli contained in contaminated sputum.
  - c) The duodenum is the site of involvement in 85% of patients.
  - d) Infection may be indistinguishable from Crohn's disease or cancer.
- 35- Which of the following statements regarding typhoid enteritis is true?**
- a) Culturing *Salmonella typhi* from blood or stool can make the diagnosis.
  - b) Chloramphenicol is the preferred treatment.
  - c) Bleeding requiring operative intervention occurs in 10%–20% of patients.
  - d) Steroids have no use in treating typhoid enteritis

- 36- A 66-year-old woman without prior history of abdominal surgery presents with intermittent abdominal distension and pain for approximately 1 week's duration and persistent vomiting for the past 1 day. Her physical examination does not reveal any abdominal or groin hernias. She is afebrile and has normal vital signs. Her WBC count is 5200/ mm<sup>2</sup>, and abdominal x- ray reveals dilated small bowel and no air within the colon and rectum. Which of the following is the most appropriate next step?**
- a) Place an N G tube and attempt non-operative treatment for 48 hours
  - b) Perform a Gastrografin challenge
  - c) Obtain a serum carcinoembryonic antigen level (CEA)
  - d) Perform a CT scan of the abdomen
- 37- Which of the following patients with small bowel obstruction is most likely to have resolution of the obstruction without an operative intervention?**
- a) A 1-year-old child with SBO due to midgut Volvulus
  - b) A 73-year-old woman with SBO due to gallstone ileus
  - c) A 27-year-old man with complete SBO for 3 days due to an incarcerated right inguinal hernia
  - d) A 33-year-old man with SBO 11 day following an exploratory laparotomy and repair of the transverse colon after a stab wound to the abdomen
- 38- A 72-year-old man with a history of hypertension and an exploratory laparotomy for splenic injury following an automobile crash at the age of 20 years presents with signs and symptoms compatible with SBO. He is afebrile. His abdomen is distended and tender below the umbilicus. His WBC count is 19,000/ mm<sup>2</sup>. His serum electrolytes reveal sodium of 140 mEq/ L, potassium of 4.2 mEq/ L, chloride of 105 mEq/ L, and bicarb of 14 mEq/L. Which of the following is the best treatment option?**
- a) Place an N G tube and a urinary catheter and initiate non-operative treatment
  - b) Perform a colonoscopy to relieve his sigmoid Volvulus
  - c) Treat the patient for Clostridium difficile infection
  - d) Surgical therapy
- 39- A 33-year-old woman with a history of three prior C-sections presents with partial small bowel obstruction diagnosed by plain radiography of the abdomen. She is initially treated by non-operative management. On the second day of NPO, intravenous fluids, and N G suction, her abdomen is less distended; however, her N G output volume remains relatively high at 600 mL/ 24 hours. Which of the following is the most appropriate option at this time?**
- a) Place a central venous catheter to initiate total parenteral nutrition and continue non-operative treatment for another 10 days
  - b) Remove the N G tube and initiate oral diet
  - c) Prescribe an enema to stimulate bowel movement
  - d) Obtain a CT scan

- 40- A 27-year-old man underwent a laparoscopic appendectomy for perforated appendicitis. He is doing well and discharged from the hospital on postoperative day 3. Eight days after hospital discharge, the man returns to the emergency department with nausea and vomiting. His temperature is normal. His abdomen is distended and mildly tender at the incision sites. A CT scan demonstrated findings compatible with partial small bowel obstruction. Which of the following is the best treatment for this patient?**
- a) Exploratory laparotomy      b) Gastrografin challenge      c) Diagnostic laparoscopy
  - d) Barium enema to rule out colonic obstruction
- 41- A 40-year-old man with acute appendicitis is concerned about undergoing appendectomy because he has a history of SBO that has required four separate inpatient hospital stays. Which of the following information is true regarding postoperative SBO?**
- a) The incidence of SBO is lower following non-operative treatment of acute appendicitis
  - b) Open appendectomy is associated with a lower incidence of postoperative SBO
  - c) Laparoscopic appendectomy is associated with a lower incidence of postoperative SBO
  - d) Small bowel obstruction occurrence goes down after the age of 30 years.
- 42- Which of the following statement regarding Crohn's disease behavior pattern is true?**
- a) The disease manifestation is consistent in terms of being inflammatory, stricturing, or penetrating.
  - b) The anatomic locations remain fairly stable over the course of disease progression in most individuals
  - c) The penetrating disease never occurs as the initial manifestation
  - d) Anorectal disease is the initial presentation in 60% of patients
- 43- Which of the following anatomic distributions is most common for Crohn's disease?**
- a) Stomach and duodenum      c) Ileum
  - b) Colon      d) Terminal ileum and right colon
- 44- Which of the following statements regarding surgery for Crohn's disease is true?**
- a) Repeat operations are needed for 25% of the patients who require one operation
  - b) Surgical resection often cures patients with Crohn disease
  - c) Medical refractory disease is the most common indication for surgical treatments
  - d) Surgical therapy rarely improves the patient's quality of life
- 45- For which of the following symptoms of Crohn's disease is medical treatment the best initial option?**
- a) Partial small bowel obstruction      c) Perianal disease
  - b) Enterocolonic fistula      d) All of the above

- 46- Which of the following has been found to be associated with Crohn's disease recurrences?**
- a) Initial surgical treatment
  - b) Smoking
  - c) Narcotic analgesics
  - d) Protein/ calorie malnutrition
- 47- Which of the following medical treatments has been shown to be most effective in reducing recurrences of Crohn's disease following surgical treatments?**
- a) Corticosteroids
  - b) Nutritional therapy
  - c) Anti-inflammatory therapy
  - d) Anti-TNF therapy
- 48- A 46-year-old woman with hypercoagulable state underwent resection of all of her jejunum and ileum from the Ligament of Treitz to the cecum and her right colon up to the mid-transverse colon after she developed intestinal infarction due to SMA thrombosis. Which of the following is the most appropriate therapy for her?**
- a) Oral diet
  - b) Feeding gastrostomy
  - c) Short-term TPN with progression to oral diet in 3 to 6 months
  - d) Long-term TPN
- 49- A 50-year-old woman has undergone multiple small bowel resections for severe Crohn's disease. She has weight loss, diarrhea, and electrolyte disturbances with regular oral diet. Which of the following therapies is most appropriate for her?**
- a) Complete bowel rest and long-term TPN
  - b) Small bowel transplantation
  - c) Continue limited modified diet, begin temporary TPN support with progression to complete weaning of TPN and transition back to oral diet
  - d) Perform a calorie count and observe
- 50- Which of the following statements is most accurate regarding the role of the colon in patients with short bowel syndrome?**
- a) The colon absorbs short-chain fatty acids
  - b) The colon absorbs water only
  - c) The colon remodels to assume the role of small bowel absorptive roles
  - d) The colon contributes to bacterial overgrowth and should be resected
- 51- Which of the following is a beneficial effect of parenteral nutrition in the treatment of short bowel syndrome?**
- a) TPN provides nutritional support and fluid hydration when GI absorption is inadequate
  - b) TPN along with bowel rest promotes GI adaptation
  - c) TPN results in lower infectious complication
  - d) TPN improves liver functions

### C-The appendix

- 1- Which of the following statements is false?**
- a) The appendicular artery arises from the right colic artery.
  - b) The commonest position of the appendix is retrocaecal.
  - c) The position of the base of the appendix is constant.
  - d) The submucosa is rich in lymphoid aggregates

- 2- Which of the following is true regarding the location of the appendix?
- a) The base of the appendix can always be found at the confluence of the caecal taenia.
  - b) The tip of the appendix is found in the pelvis in the majority of cases.
  - c) The appendix is often retrocaecal and extraperitoneal.
  - d) After the fifth gestational month of pregnancy, the appendix is shifted posteriorly and laterally by the gravid uterus
- 3- Which of the following statements regarding the appendix is false?
- a) The average length of an adult appendix is 9 cm.
  - b) The blood supply to the appendix is from the appendicular artery, a branch of the ileocolic artery.
  - c) Innervation of the appendix is derived from the somatic nervous system.
  - d) The appendix contains large amounts of lymphoid aggregates, but it has no significant exocrine function.
- 4- Which of the following statements regarding the pathogenesis of appendicitis is false?
- a) The antimesenteric border has the poorest blood supply and is usually the site of the perforation.
  - b) Fecaliths are commonly responsible for appendicitis in children.
  - c) Viral or bacterial infections can precede an episode of appendicitis.
  - d) Obstruction of venous outflow and then arterial inflow results in gangrene
- 5- A 27-year-old man has a 1-day history of right lower quadrant pain and leukocytosis. Probable non-perforated acute appendicitis is diagnosed. What is the best antibiotic and surgical management for this patient?
- a) Operate and then await the results of peritoneal fluid cultures to tailor the selection of antibiotics.
  - b) Administer cefazolin peri-operatively to reduce the risk of wound infection and then operate.
  - c) Begin ceftriaxone and metronidazole (Flagyl), monitor the patient with serial abdominal examinations, and operate if he fails to improve.
  - d) Administer ceftriaxone and metronidazole (Flagyl) and proceed with surgery.
- 6- A 62-year-old female presents with a 5-day history of right lower quadrant abdominal pain and nausea. A computed tomography (CT) of the abdomen and pelvis shows perforated appendicitis with a 5-cm abscess. She was started on broad-spectrum antibiotics and underwent percutaneous drainage of the abscess. In 72 h she was afebrile, and her leukocytosis and symptoms had resolved. What should the next treatment step be?
- a) Appendectomy prior to discharge
  - b) Continue broad-spectrum antibiotics until drain removal
  - c) Schedule a colonoscopy and consider an interval appendectomy in 8 weeks
  - d) Interval appendectomy in 4 weeks



- 7- **With regard to appendicitis in the elderly, which statement is false?**
- a) Elderly patients tend to present later in the course of acute appendicitis.
  - b) Elderly patients have a higher rate of perforation because of omental atrophy.
  - c) Perforation has an associated mortality rate of 50%.
  - d) Appendicitis may mimic bowel obstruction.
- 8- **A 27-year-old man is suspected of having acute appendicitis. On physical examination his abdomen is soft and non-distended. He does not have pain with coughing or reproduction of tenderness in the right lower quadrant when palpated in the left lower quadrant. He experiences abdominal pain during extension of the right thigh while lying on his left side. He does not have pain with passive rotation of his right hip in a flexed position. Where do you suspect the location of the tip of his appendix to be?**
- a) Displaced to the right upper quadrant
  - b) Extraperitoneal and lying anterior to the cecum
  - c) In the pelvis
  - d) Retrocaecal over the psoas muscle
- 9- **A 30-year-old, 28-week pregnant female presents to the emergency department with a 24-h history of right upper quadrant abdominal pain. The white blood cell (WBC) count is 18,000. An ultrasound was done showing a normal gallbladder and viable fetus. The appendix was not visualized. What is the next best step?**
- a) Obtain a CT abdomen/pelvis.
  - b) Treat with antibiotics in an attempt to avoid an operation.
  - c) Proceed with laparoscopy after delivery.
  - d) Obtain a magnetic resonance imaging (MRI) and proceed with an appendectomy if positive.
- 10- **You are performing a laparoscopic appendectomy on a 35-year-old male who presented with classic acute appendicitis. During the operation, you note that the appendix is necrotic and perforated at the base. What is the best way to proceed with the appendectomy?**
- a) Perform a limited caecal resection using a stapling device.
  - b) Staple across the necrotic base of the appendix making sure the perforation is closed.
  - c) Place an endoloop around the base of the appendix.
  - d) Irrigate and place a drain with plans to perform an interval appendectomy in 6 weeks
- 11- **A 20-year-old woman is operated on through a right lower quadrant incision for presumed appendicitis, but the appendix is normal. At this point, which of the following would be an appropriate treatment?**
- a) Exploration and appendectomy if no other pathology is found
  - b) Exploration, treatment of any associated pathologic condition, as indicated, and avoiding removal of a healthy appearing appendix
  - c) Exploration and diverticulectomy if a Meckel's diverticulum is present and is normal by inspection and palpation
  - d) Midline laparotomy for complete exploration if no pathology can be seen through the right lower quadrant incision



- 12- With regard to appendicitis in immunocompromised patients, which of the following statements is false?**
- a) Immunocompromised patients with appendicitis often have a fever, a normal WBC count, and nonspecific abdominal pain.
  - b) Typhlitis often mimics acute appendicitis.
  - c) CT is particularly useful in immunocompromised patients.
  - d) Unusual infections such as those caused by mycobacteria, protozoa, and fungi do not usually mimic appendicitis.
- 13- Which of the following is true regarding appendiceal carcinoid tumors?**
- a) Carcinoid tumor is the second most common tumor of the appendix.
  - b) For tumors greater than 2 cm, a formal right hemicolectomy is indicated.
  - c) All tumors less than 2 cm that do not involve the appendiceal base can be treated with an appendectomy alone.
  - d) Nearly 75% of appendiceal carcinoid tumors are located in the proximal one-third of the appendix.
- 14- A 35-year-old male underwent a laparoscopic appendectomy. On final pathology, he was found to have a 1.4-cm carcinoid tumor in the mid- appendix with direct extension to the meso-appendix, negative margins, and no lymphovascular invasion. What is the best treatment plan?**
- a) No further treatment needed
  - b) Ileocecectomy
  - c) Right hemicolectomy
  - d) Medical treatment with octreotide
- 15- When a mucocele of the appendix is found at the time of surgery, which of the following is an appropriate initial therapy?**
- a) Incisional biopsy with subsequent appendectomy if malignancy is confirmed by frozen section
  - b) Routine right hemicolectomy with lymph node dissection
  - c) Needle aspiration of cystic fluid for cytologic examination
  - d) Appendectomy
- 16- Which of the following is true regarding adenocarcinoma of the appendix?**
- a) Appendectomy is an adequate treatment for tumors less than 1 cm without lymph node involvement and clear margins.
  - b) Fifty percent of patients have metastatic disease at the time of diagnosis.
  - c) Right hemicolectomy is required for all appendiceal adenocarcinomas.
  - d) A second primary adenocarcinoma is rarely found elsewhere in the gastrointestinal tract at the time of diagnosis.
- 17- During an exploratory laparotomy on a 46-year-old male with a small bowel obstruction, mucinous ascites is found throughout the abdomen along with a large cystic-appearing appendiceal mass. What is the most likely diagnosis?**
- a) Malignant peritoneal mesothelioma
  - b) Appendiceal carcinoid tumor
  - c) Perforated acute appendicitis
  - d) Pseudomyxoma peritonei

- 18- A 19-year-old woman presents with 2-day history of lower abdominal pain and no fever. She has a tender left adnexal mass, a normal W BC count, negative pregnancy test, and normal urinalysis. Which of the following is the most appropriate management?**
- CT of the abdomen and pelvis
  - Discharge the patient after giving her reassurance
  - Diagnostic laparoscopy
  - Pelvic ultrasonography
- 19- A 24-year-old man complains of colicky intermittent peri-umbilical and right lower quadrant pain of 24-hour duration. He complains of anorexia and nausea. His temperature is 36.6°C (98°F). Which of the following is the most likely diagnosis?**
- Acute appendicitis
  - Peptic ulcer
  - Acute pancreatitis
  - Gastroenteritis
- 20- Which of the following is not a sign of acute appendicitis?**
- Rovsing's sign
  - Pointing sign
  - Obturator sign
  - Murphy's sign.
- 21- The most common neoplasm of the appendix is:**
- Lymphoma.
  - Adenocarcinoma.
  - Leiomyosarcoma.
  - Argentaffinoma.
- 22- The nerve most commonly damaged during McBurney's incision is the:**
- Subcostal nerve.
  - 11th thoracic nerve.
  - 10th thoracic nerve.
  - Iliohypogastric nerve.
- 23- The most common position of the appendix is:**
- Pre-ileal.
  - Post-ileal.
  - Paracaecal.
  - Retrocaecal.
- 24- Pseudomyxoma peritonei is seen with which of the following conditions?**
- Mesothelioma.
  - Thecoma ovary.
  - Carcinoid appendix.
  - Mucin secreting ovarian carcinoma.

### D- Colorectal surgery

- 1- The life-time risk of colorectal cancer in the population is:**
- 5%.
  - 10%.
  - 15%.
  - 25%.
- 2- Which one of the following statements is true regarding the risk of colorectal cancer in a 35-year-old male with no past medical history of colorectal cancer and one first-degree relative with colon cancer diagnosed at 50 years of age?**
- He is at high risk of developing colorectal cancer.
  - He is at low risk of developing colorectal cancer.
  - He is at moderate risk of developing colorectal cancer.
  - None of the above.

- 3- The risk of colorectal cancer is high in all of the following groups of patients, EXCEPT:**
- a) Family history of Lynch syndrome.
  - b) Family history of familial adenomatous polyposis (FAP).
  - c) One first-degree relative with bowel cancer diagnosed at 50 years of age.
  - d) One first-degree relative with bowel cancer diagnosed at the age of 45 years.
- 4- The most common inherited large bowel cancer syndrome IS:**
- a) Familial adenomatous polyposis (FAP).
  - b) Peutz-Jeghers syndrome.
  - c) Gardner's syndrome.
  - d) Lynch syndrome.
- 5- The characteristic features of Lynch syndrome include all of the following, EXCEPT:**
- a) Average age at the time of diagnosis is 45 years.
  - b) Tumors are usually associated with colonic polyps.
  - c) Tumors have predilection for proximal colon.
  - d) Tumors tend to be poorly differentiated.
- 6- Which of the following cancers is not associated with Lynch syndrome?**
- a) Medullary carcinoma of thyroid.
  - b) Endometrial carcinoma.
  - c) Colonic carcinoma.
  - d) Gastric carcinoma.
- 7- Which of the following cancer syndromes is not associated with colonic polyps?**
- a) Familial adenomatous polyposis (FAP).
  - b) Gardner's syndrome.
  - c) Lynch syndrome.
  - d) Turcot's syndrome.
- 8- The genetic defect associated with Lynch syndrome IS:**
- a) Germline mutations of mismatch repair genes.
  - b) Mutation in the p53 tumor suppressor gene.
  - c) Mutation in the gene for  $\beta$ -cadherin.
  - d) Mutation in the cyclin D1 gene
- 9- A patient with a family history of Lynch syndrome and positive genetic testing for micro satellite instability should be offered surveillance colonoscopy:**
- a) Every 3-5 years from the age of 25 years.
  - b) Every 6 months from the age of 25 years.
  - c) Every 12 months from the age of 25 years.
  - d) Every 1-2 years from 5 years earlier than the age of the youngest affected relative.
- 10- The investigation that is not recommended as a part of surveillance for extracolonic manifestations of Lynch syndrome IS:**
- a) Mammography every 2 years.
  - b) Annual urine analysis and cytology.
  - c) Upper gastrointestinal endoscopy every 5 years.
  - d) Annual liver function tests, carcinoembryonic antigen and CA 19.9.

- 11- The treatment of choice in a 45-year-old male patient with caecal and rectal cancer and positive germline mutations for mismatch repair gene IS:**
- a) Subtotal colectomy.
  - b) Right hemicolectomy and anterior resection.
  - c) Proctocolectomy with or without ileo-anal pouch.
  - d) Right hemicolectomy and trans-anal endoscopic microsurgery.
- 12- The risk of colorectal cancer in patients with familial adenomatous polyposis (FAP) IS:**
- a) 100%.
  - b) 50%.
  - c) 75%.
  - d) 90%.
- 13- Familial adenomatous polyposis (FAP) is characterized by:**
- a) The presence of more than one hundred adenomatous polyps.
  - b) Multiple extra-intestinal manifestations.
  - c) Duodenal polyps.
  - d) All of the above.
- 14- Familial adenomatous polyposis (FAP) is due to:**
- a) Mutation of p53 gene.
  - b) Mutation of K-ras gene.
  - c) Mutation of mismatch repair gene.
  - d) Mutation of adenomatous polyposis coli (APC) gene.
- 15- The most appropriate time for colonic surveillance in patients with a family history of familial adenomatous polyposis (FAP) IS:**
- a) Annual colonoscopy starting at the age of 20 years.
  - b) 6-monthly flexible sigmoidoscopy starting at the age of 25 years.
  - c) 6-monthly flexible sigmoidoscopy starting at the age of 13-15 years.
  - d) Surveillance should only be offered to patients with a history of rectal bleeding or change of bowel habits or anemia.
- 16- The risk of duodenal malignancy in duodenal adenoma associated with familial adenomatous polyposis (FAP) IS:**
- a) 5%.
  - b) 1-2%.
  - c) 100%.
  - d) 20-30%.
- 17- The most common site of ischemic colitis IS:**
- a) Hepatic flexure.
  - b) Splenic flexure.
  - c) Transverse colon.
  - d) Ileocecal junction.
- 18- The recommended time interval for endoscopic follow-up of a patient with Spigelman stage 3 duodenal polyposis IS:**
- a) Every 5 years.
  - b) Every 3 years.
  - c) Every year.
  - d) Every 6 months.
- 19- The difference between MYH-associated colon cancers and familial adenomatous polyposis (FAP) syndrome-associated colon cancers IS:**
- a) It is common at a younger age.
  - b) It occurs on the right side.
  - c) It is common in males.
  - d) None of the above.

- 20- The type of polyps associated with Peutz-Jeghers syndrome ARE:**
- a) Pseudo polyps.
  - b) Hyperplastic polyps.
  - c) Adenomatous polyps.
  - d) Hamartomatous polyps.
- 21- Which of the following polyps has a high risk of malignant transformation?**
- a) Pseudopolyps.
  - b) Polypoid adenomas.
  - c) Hamartomatous polyps.
  - d) Flat adenomatous polyps.
- 22- According to BSG (British Society of Gastroenterology) guidelines, patients with snore than five small adenomas should be offered repeat colonoscopy at:**
- a) 1 year.
  - b) 3 years.
  - c) 5 years.
  - d) 6 months.
- 23- The strongest layer of small bowel IS:**
- a) Serosa.
  - b) Mucosa.
  - c) Sub mucosa.
  - d) Muscularis mucosa.
- 24- The most common site of colorectal cancer IS:**
- a) Rectum.
  - b) Right colon.
  - c) Left colon.
  - d) Transverse colon.
- 25- Which of the following statements is incorrect regarding mechanical bowel preparation?**
- a) It prevents anastomotic leak.
  - b) It does not prevent wound infection.
  - c) It is contraindicated in patients with obstruction.
  - d) It can cause severe dehydration in elderly people.
- 26- Most gastrointestinal anastomotic leaks are due to:**
- a) Anemia.
  - b) Diabetes.
  - c) Poor anastomotic technique.
  - d) Not administrating antibiotics at induction of anesthesia.
- 27- Colonic bleeding secondary to angiodysplasia is characterized by all of the following features, EXCEPT:**
- a) It is associated with intermittent fresh red rectal bleeding.
  - b) Sigmoid colon is the most commonly affected site.
  - c) It can be associated with underlying aortic stenosis.
  - d) It can be associated with iron deficiency anemia.
- 28- The minimum number of lymph nodes required for the evaluation of lymph node staging in patients with colorectal cancer IS:**
- a) 6.
  - b) 3.
  - c) 12.
  - d) 24.
- 29- Prophylactic antibiotics should be given:**
- a) An hour before induction.
  - b) Immediately after induction.
  - c) Immediately after skin incision.
  - d) At the time of bowel anastomosis
- 30- The color rectal cancer that is associated with a high local recurrence rate and poor survival IS:**
- a) Caecal cancer.
  - b) Sigmoid cancer.
  - c) Rectal cancer.
  - d) Splenic flexure cancer.

- 31- In a 45-year-old male recently diagnosed with caecal cancer, staging computed tomography showed a large caecal tumor involving the right ureter and lower pole of right kidney. The best treatment option would be:**
- a) Ileocolic bypass.
  - b) Palliative chemotherapy.
  - c) Chemo radiotherapy followed by surgery.
  - d) Right hemicolectomy and right nephrectomy.
- 32- A 70-year-old female patient underwent anterior resection with primary anastomosis 5 days ago. She is suspected to have anastomotic leak on the sixth post-operative day. The most appropriate investigation to confirm an anastomotic leak IS:**
- a) Barium enema.
  - b) CT of the abdomen.
  - c) Water-soluble contrast enema.
  - d) CT of the abdomen with a contrast enema.
- 33- The chance of lymph node involvement is high in which one of the following types of colorectal cancer:**
- a) Poorly-differentiated colorectal cancer confined to the bowel wall.
  - b) Moderately-differentiated colorectal cancer confined to the bowel wall.
  - c) Well-differentiated colorectal cancer penetrating the full thickness of the bowel wall.
  - d) Poorly-differentiated colorectal cancer penetrating the full thickness of the bowel wall.
- 34- The incidence of synchronous lesions in patients with rectal cancer IS:**
- a) 10%.
  - b) 15%.
  - c) 3%.
  - d) 1%.
- 35- The investigation of choice for loco-regional assessment of rectal cancer IS:**
- a) CT scan.
  - b) Endorectal ultrasound.
  - c) Magnetic resonance imaging (MRI).
  - d) Positron emission tomography (PET)-CT.
- 36- Which of the following group of patients is at high risk of developing side-effects due to 5-fluorouracil (FU)?**
- a) Patients with deficiency of topoisomerase I.
  - b) Patients with deficiency of thymidine phosphate.
  - c) Patients with deficiency of thymidylate synthase.
  - d) Patients with dihydropyrimidine dehydrogenase deficiency.
- 37- Which of the following features is associated with worst prognosis in stage-II colon cancer?**
- a) Perforation.
  - b) Poorly-differentiated tumors.
  - c) Involvement of peritoneum.
  - d) All of the above.
- 38- The rationale behind the use of radiotherapy in patients with rectal cancer include all EXCEPT:**
- a) To reduce the local recurrence.
  - b) To reduce the distant spread.
  - c) To downstage the tumor to allow successful resection.
  - d) To downstage the tumor to achieve sphincter preserving surgery.

**39- The advantage of pre-operative radiotherapy compared to postoperative radiotherapy in rectal carcinoma IS:**

- a) Pelvic anatomy is undisturbed.
- b) Reduced gastrointestinal toxicity.
- c) Less small bowel in radiation field.
- d) All of the above.

**40- All of the following are long-term complications associated with a short course of pre-operative radiotherapy, EXCEPT:**

- a) Pelvic fracture.
- b) Permanent sterility.
- c) Erectile dysfunction.
- d) Impaired bowel function.

**41- Which part of the colon is most commonly affected by ulcerative colitis?**

- a) Rectum.
- b) Right colon.
- c) Sigmoid colon.
- d) Transverse colon.

**42- The most common extra-intestinal manifestation of ulcerative colitis IS:**

- a) Primary sclerosing colitis.
- b) Arthropathy.
- c) Erythema nodosum.
- d) Uveitis.

**43- Primary sclerosing cholangitis associated with inflammatory bowel syndrome is characterized by all of the following features, EXCEPT:**

- a) Primary sclerosing cholangitis is more commonly associated with ulcerative colitis than Crohn's disease.
- b) The risk of cholangiocarcinoma is similar before and after proctocolectomy in patients with ulcerative colitis.
- c) Cholangiocarcinoma is common in patients with ulcerative colitis.
- d) None of the above.

**44- The features which differentiate ulcerative colitis and Crohn's disease include all of the following, EXCEPT:**

- a) Rectal sparing is common in ulcerative colitis.
- b) Anal disease is common in ulcerative colitis.
- c) Intestinal fistulization is uncommon in ulcerative colitis.
- d) Full thickness bowel wall involvement is not a feature of ulcerative colitis.

**45- Ulcerative colitis is characterized by:**

- a) Rectal sparing.
- b) Stricture formation.
- c) Cryptic abscess formation.
- d) All of the above.

**46- Indications for surgery in patients with acute colitis include:**

- a) Presence of megacolon.
- b) Failed medical treatment.
- c) Bloody diarrhea >10 times in 24 hours.
- d) All of the above.

**47- Infliximab is a synthetic:**

- a) Anti-TNF- $\alpha$  monoclonal antibody.
- b) IL-2 receptor inhibitor.
- c) Anti-TNF- $\beta$  monoclonal antibody.
- d) IL-6 receptor inhibitor.

**48- The operation of choice in a patient with acute colitis is:**

- a) Sub-total colectomy with ileostomy.
- b) Proctocolectomy with end ileostomy.
- c) Proctocolectomy with an ileo-anal pouch.
- d) Subtotal colectomy with ileo-anal anastomosis.

**49- The indications for emergency surgery in patients with colitis include:**

- a) Poor compliance.
- b) Growth retardation.
- c) Toxic megacolon.
- d) Recurrent acute exacerbations.

**50- Extra-intestinal manifestations of ulcerative colitis that respond to colonic resection are:**

- a) Polyarthropathy.
- b) Erythema nodosum.
- c) Pyoderma gangrenosum.
- d) All of the above.

**51- The contraindications for a restorative proctocolectomy with ileo-anal pouch IS:**

- a) Crohn's colitis.
- b) Ulcerative colitis.
- c) Indeterminate colitis.
- d) Familial adenomatous polyposis.

**52- The incidence of colorectal cancer in patients with colitis of less than 10 years duration IS:**

- a) Nil.
- b) 10-15%.
- c) 20%.
- d) 50%.

**53- Crohn's disease commonly affects the:**

- a) Colon.
- b) Duodenum.
- c) Small bowel.
- d) Perianal area.

**54- The active component of salazopyrin IS:**

- a) Aspirin.
- b) Sulphonamide.
- c) 5-aminosalicylic acid (ASA).
- d) Salazopyrin.

**55- The earliest macroscopic lesions found in patients with Crohn's disease are:**

- a) Aphthous ulcers.
- b) Stricture formation.
- c) Inflammatory polyps.
- d) Loss of mucosal vascular pattern.

**56- All of the following are extra-intestinal manifestations related to Crohn's disease activity, EXCEPT:**

- a) Pyoderma gangrenosum.
- b) Erythema nodosum.
- c) Acute arthropathy.
- d) Gallstones.

**57- The most frequent indication for surgery in patients with Crohn's disease IS:**

- a) Crohn's colitis.
- b) Perianal disease.
- c) Intestinal fistula.
- d) Small bowel obstruction.



**58- Crohn's disease is a contraindication for an ileoanal pouch because of the:**

- a) High risk of pouchitis.
- b) High risk of cancer in the pouch.
- c) Future risk of small bowel resection following recurrence.
- d) Risk of recurrence of Crohn's disease in the small bowel/perianal area.

**59- A 25-year-old female underwent incision drainage for a perianal abscess 6 months ago. She re-presents with persistent purulent discharge from the incisional drainage site in the last 2 weeks. The next step in the management of this patient is:**

- a) CT scan of pelvis.
- b) Examination under anaesthesia.
- c) Magnetic resonance imaging (MRI) of pelvis.
- d) Small bowel enema followed by examination under anaesthesia.

**60- A fistula is a:**

- a) Communication between epithelial and non-epithelial lined surfaces.
- b) Communication between two epithelial lined surfaces.
- c) Communication between two non-epithelial lined surfaces.
- d) Blind-ending tract.

**61- The presence of skin organisms in the pus obtained from a perianal abscess indicates that:**

- a) The risk of fistula formation is high.
- b) The risk of fistula formation is extremely low.
- c) The risk of recurrence of a perianal abscess is high.
- d) There is an underlying inflammatory bowel disease.

**62- A 25-year-old female patient presents with painful perianal swelling present for the last 3 days. On examination under anaesthesia, she is found to have a perianal abscess and a low fistula in ano. The treatment of choice is:**

- a) Incision and drainage of abscess.
- b) Incision, drainage and seton insertion.
- c) Incision, drainage and fistulotomy.
- d) Incision and drainage followed by magnetic resonance imaging (MRI).

**63- According to Goodsall's rule the site of the internal opening of a fistula in ano can be predicted by:**

- a) The absence of induration.
- b) The position of the external opening.
- c) The distance of the external opening from the anal verge.
- d) None of the above.

**64- Exceptions to Goodsall's rule include all of the following, EXCEPT:**

- a) The presence of underlying Crohn's disease.
- b) The presence of underlying malignancy.
- c) Posteriorly located external opening of fistula.
- d) Anteriorly located external opening of fistula >3 cm from anal verge.

**65- The common type of perianal fistula IS:**

- a) Transsphincteric.
- b) Suprasphincteric.
- c) Intersphincteric.
- d) Extrasphincteric.

**66- Seton insertion should be considered in patients with:**

- a) Fistula in ano with multiple external openings.
- b) Low fistula in ano.
- c) High fistula in ano.
- d) a and c.

**67- A seton helps in the management of fistula in ano by:**

- a) Allowing free drainage of pus.
- b) Acting as a marker for fistula tract.
- c) Allowing cutting and healing of the external sphincter.
- d) All of the above.

**68- The loose seton can be used:**

- a) To preserve the entire external sphincter.
- b) To preserve part of the voluntary muscle.
- c) As part of staged fistulotomy.
- d) All of the above.

**69- The contraindication for the use of anal advancement flap for the treatment of fistula in ano IS:**

- a) Presence of acute sepsis.
- b) Internal opening <2.5 cm from dentate line.
- c) Previous incision and drainage.
- d) Diabetes.

**70- Anal cushions ARE:**

- a) Normal functional structures contributing to anal continence.
- b) Abnormal arteriovenous complexes.
- c) Abnormal structures found in the anal canal.
- d) a and c.

**71- The treatment of choice for grade II hemorrhoids IS:**

- a) Open hemorrhoidectomy.
- b) Rubber band ligation.
- c) Electro-coagulation.
- d) Stool softener.

**72- Which of the following is a common site of polyps in patients with Peutz-Jeghers syndrome?**

- a) Rectum.
- b) Stomach.
- c) Large bowel.
- d) Small bowel.

**73- Colonic pseudo-obstruction can be temporarily relieved by the administration of:**

- a) Atropine.
- b) Cisapride.
- c) Neostigmine.
- d) Metoclopramide.

**74- Stapled hemorrhoidectomy is associated with all of the following, EXCEPT:**

- a) It alleviates symptoms.
- b) It corrects the underlying pathophysiology.
- c) It is not useful in prolapsed hemorrhoids.
- d) It is associated with an increased recurrence of symptoms in the long term.

**75- Secondary bleeding following hemorrhoidectomy is due to:**

- a) Straining.
- b) Infection.
- c) Slipping of ligature.
- d) Recurrence of hemorrhoid.

**76- The most common early complication following hemorrhoidectomy in male patients IS:**

- a) Reactionary hemorrhage.
- b) Fecal incontinence.
- c) Urinary retention.
- d) Anal stricture.

**77- All of the following features suggest chronicity of an anal fissure, EXCEPT:**

- a) Presence of anal skin tag.
- b) Presence of fibro-epithelial polyp.
- c) Presence of symptoms >6 weeks.
- d) a and b.

**78- The most common site of an anterior anal fissure is at**

- a) 9 o'clock.
- b) 6 o'clock
- c) 3 o'clock.
- d) 12 o'clock.

**79- The most common site of an anal fissure in post-partum females is:**

- a) 6 o'clock
- b) 9 o'clock.
- c) 3 o'clock
- d) 12 o'clock.

**80- The treatment of choice for anal fissure IS:**

- a) Surgery.
- b) Anal dilatation.
- c) Botulinum toxin.
- d) GTN ointment.

**81- The most effective treatment for anal fissure IS:**

- a) Lateral sphincterotomy.
- b) Diltiazem ointment.
- c) Botulinum toxin.
- d) GTN ointment.

**82- The percentage GTN ointment used in the treatment of anal fissure IS:**

- a) 0.2%.
- b) 0.5%.
- c) 1%.
- d) 1.2%.

**83- The common side-effect associated with GTN ointment IS:**

- a) Headache.
- b) Hypotension.
- c) Sweating.
- d) Cough.

**84- The rationale for the administration of sodium along with glucose in patients with severe dehydration due to intestinal failure IS:**

- a) Sodium absorption is linked to the absorption of glucose.
- b) The majority of these patients are hypoglycaemic.
- c) Glucose prevents the excretion of sodium.
- d) Sodium helps the metabolism of glucose.

**85- Sodium absorption normally occurs in the:**

- a) Ileum and colon.
- b) Proximal jejunum.
- c) Duodenum.
- d) Stomach.

**86- Magnesium is usually absorbed in the:**

- a) Colon.
- b) Stomach.
- c) Duodenum.
- d) Distal jejunum and ileum.

**87- The most common source of vitamin K IS:**

- a) Intestinal bacteria.
- b) Meat products.
- c) Dairy products.
- d) Vegetables.

**88- All of the following are constituents of St Mark's solution, except:**

- a) Glucose.
- b) Potassium chloride.
- c) Sodium chloride.
- d) Sodium bicarbonate.

**89- Complications associated with total parenteral nutrition include:**

- a) Gallstones.
- b) Hyperkalaemia.
- c) Hyperglycaemia.
- d) All of the above.

**90- Most anal cancers originate from the:**

- a) Anal ducts.
- b) Anal glands.
- c) Columnar epithelial lining.
- d) Squamous epithelial lining.

**91- The most common type of anal margin tumor IS:**

- a) Lymphoma.
- b) Adenocarcinoma.
- c) Malignant melanoma.
- d) Squamous cell carcinoma.

**92- The human papilloma virus strains associated with anal carcinoma are:**

- a) Types 16, 18, 31 and 33.
- b) Types 6 and 11.
- c) Types 4 and 8.
- d) Types 36 and 38.

**93- Anogenital intra-epithelial neoplasia is graded from I to III according to the:**

- a) Degree of differentiation.
- b) Number of thirds of epithelial cell depth that are dysplastic.
- c) Number of mitotic figures.
- d) Degree of lymphovascular invasion

**94- Basaloid tumours of the anal canal arise from the:**

- a) Anal verge.
- b) Transitional zone of the anal canal.
- c) Anal canal area covered by rectal mucosa.
- d) None of the above.

**95- The treatment of choice for anal carcinoma IS:**

- a) Chemo-radiotherapy.
- b) Radical excision.
- c) Chemotherapy.
- d) Radiotherapy.

**96- Which one of the following anal tumours has the worst prognosis?**

- a) Squamous cell carcinoma.
- b) Adenocarcinoma.
- c) Melanoma.
- d) Lymphoma.

**97- Which of the following is not an indication for the use of pre- operative chemo radiotherapy in patients with rectal cancer?**

- a) Tumor shrinkage.
- b) Reduced local recurrence.
- c) Treatment of micro-metastasis.
- d) Reduced anastomotic leak rate.

**98- The most likely diagnosis in a young male patient presenting with acute abdominal pain, blood and mucus in his stool and with a palpable mass per abdomen is due to:**

- a) Volvulus.
- b) Intussusception.
- c) Meckler's diverticulum.
- d) Hypertrophic pyloric stenosis.

**99- Faecal continence is normally maintained by all of the following, EXCEPT:**

- a) Haustral valves.
- b) Rectal innervations.
- c) Anorectal angulation.
- d) Internal anal sphincter.

**100- Meckel's diverticulum is a remnant of:**

- a) Stenson's duct.
- b) Wolffian duct.
- c) Mullerian duct.
- d) Vitello-intestinal duct.

**101- The best method of diagnosis of ectopic gastric mucosa of Meckel's diverticulum IS:**

- a) Fluoroscopy.
- b) Radionuclides scan.
- c) Ultrasound of the abdomen.
- d) Occult blood test in the stool.

**102- With regard to the anatomy of the colon and rectum, which of the following statements is true?**

- a) The colon has a complete outer longitudinal and an incomplete inner circular muscle layer.
- b) The haustra are separated by plicae circulares.
- c) The ascending colon and descending colon are usually fixed to the retroperitoneum.
- d) The rectum is totally invested by three complete muscle layers.

**103- A 20-year-old healthy, active man with no previous medical problems is being evaluated for chronic constipation. His electrolyte levels are normal. He denies recent travel and is not currently taking any medications. Plain radiographs show a dilated colon. Transit studies are abnormal with slow transit times. What is the next best step in the management of this patient?**

- a) Flexible sigmoidoscopy
- b) Modification of diet and antibiotics
- c) Placement of a rectal tube proximal to the normal-caliber aganglionic bowel to decompress the dilated non-diseased bowel
- d) Anal manometry, rectal biopsy, and barium enema

**104- A screening colonoscopy identifies a broad sessile villous appearing lesion of the rectum beginning 4 cm above the anal verge and extending 5 cm proximally. Biopsies show a villous adenoma with dysplasia. Endorectal ultrasound (EUS) shows that the muscularis propria is not involved. No suspicious lymph nodes are seen. Which of the following approaches is the most appropriate for the management of this patient?**

- a) Repeated biopsies
- b) Fulguration
- c) Transanal excision
- d) Abdominoperineal resection (APR)

**105- In which of the following settings should a low anterior resection (LAR) be performed?**

- a) A 56-year-old male with a circumferential villous adenoma beginning at the dentate line and extending 8 cm proximally
- b) Palliation of obstructing rectal cancer just above the dentate line with minimal liver metastases in a 60-year-old female
- c) An 80-year-old male with a large rectal cancer that produces anal pain and tenesmus and involves the anal sphincter
- d) A 75-year-old male with urinary incontinence and a rectal cancer 5 cm above the dentate line

**106- With regard to ulcerative colitis, which of the following statements is true?**

- a) The entire colon is involved with skip areas in at least one-half of patients.
- b) Crypt abscesses on pathology are diagnostic of ulcerative colitis and are not seen with other inflammatory conditions of the bowel.
- c) The course of the disease is most commonly a chronic relapsing one, with acute fulminant colitis in only 10%–15% of patients.
- d) Cancers arising in association with ulcerative colitis tend to be located in the rectum and sigmoid colon, similar to sporadic colorectal cancers (CRCs)

**107- A 39-year-old man with a history of mild, long-standing ulcerative colitis controlled with sulfasalazine recently underwent routine colonoscopy that showed a lesion in the sigmoid colon. Pathologic evaluation reveals high-grade dysplasia. Which of the following is the best management option?**

- a) Sigmoid colectomy, provided that the rectum is minimally involved
- b) Proctocolectomy with ileal pouch–anal anastomosis (IPAA)
- c) Total abdominal colectomy with ileorectal anastomosis (IRA)
- d) Total proctocolectomy with Brooke ileostomy

**108- Enteric fistulas may be a complication of diverticulitis. Which of the following statements is true?**

- a) Colocutaneous fistulas frequently occur spontaneously.
- b) Suspected colovesical fistulas are best confirmed with barium enema.
- c) Coloenteric fistulas may be totally asymptomatic.
- d) Surgical correction of enteric fistulas is best accomplished in stages.

**109- A 54-year-old man underwent right hemicolectomy for colon cancer. Pathologic analysis showed invasion of the tumor into the muscularis propria, with 2 of 18 lymph nodes positive for tumor. What is his pathologic staging?**

- a) Dukes A
- b) T2N1 (stage IIIA)
- c) T2N1 (stage IIB)
- d) T3N2 (stage IIIA)

**110- Caecal diverticula are different from sigmoid diverticula in that:**

- a) Sigmoid diverticula are true diverticula while caecal diverticula are false diverticula.
- b) Caecal diverticulitis is usually distinguishable from cancer.
- c) Caecal diverticula are considered congenital in origin.
- d) Asymptomatic caecal diverticula found on barium enema or colonoscopy should be treated operatively because of the high incidence of complications.

**111- A 21-year-old woman is noted to have persistent bloody diarrhea, abdominal cramps, and fever. Stool studies are negative for infectious diarrhea. Colonoscopy reveals friable mucosa in a continuous manner from the rectum to the sigmoid colon. No granulomas are found on biopsy. Which of the following statements is true regarding the most likely diagnosis in this patient?**

- a) Pseudopolyps and cobblestoning are common colonoscopic findings.
- b) Surgery is curative for this diagnosis.
- c) Rectal sparing is commonly seen on colonoscopy.
- d) Perianal fistulas are commonly found on rectal examination.

**112- Which disease is correctly matched to the appropriate treatment?**

- a) Actinomycosis: penicillin and drainage
- b) Lymphogranuloma venereum: penicillin and steroids
- c) Tuberculous enteritis: isoniazid and colectomy
- d) *Yersinia* infections: metronidazole and appendectomy

**113- Which statement is correct concerning intestinal Polyposis syndromes?**

- a) Hamartomas are found in patients with both juvenile polyps and Peutz- Jeghers syndrome (PJS).
- b) Familial polyposis syndrome often includes extraintestinal manifestations.
- c) Turcot syndrome often includes small bowel polyps.
- d) PJS, Gardner syndrome, and Turcot syndrome are inherited in an autosomal recessive pattern.

**114- With regard to ischemic colitis, which of the following statements is true?**

- a) The most common symptoms are lower abdominal pain and bright red rectal bleeding.
- b) Occlusion of the major mesenteric vessels is the cause of ischemia in most cases.
- c) The splenic flexure and hepatic flexure are the most vulnerable areas of the colon.
- d) Non-operative management is not justified because of the significant rates of perforation and peritonitis.

**115- Which of the following colonoscopic screening recommendations is correct?**

- a) A patient whose father had CRC at age 64—start screening at age 40, repeat every 10 years
- b) A patient whose father had colorectal polyps at age 58—start screening at age 50, repeat every 10 years
- c) A patient whose mother had colorectal polyps at age 58—start screening at age 40, repeat every 5 years



- d) A patient with HNPCC—start screening at age 30, repeat every 5 years
- 116- Which of the following findings warrants abdominoperineal resection (APR)?**
- a) A fixed circumferential adenocarcinoma just above the dentate line
  - b) An ulcerating adenocarcinoma whose lower edge is 7 cm from the dentate line, with infiltration and expansion of the second hypoechoic layer seen on ultrasound imaging
  - c) A 2-cm mobile adenocarcinoma arising in a villous adenoma 3 cm from the dentate line, with an intact second hypoechoic band seen on ultrasound imaging
  - d) A circumferential adenocarcinoma 12 cm from the anal verge
- 117- Which of the following is the appropriate operation for a sigmoid cancer that has not metastasized?**
- a) Segmental resection of the sigmoid with 5-cm margins and high ligation of the sigmoid branch of the IMA
  - b) Resection of the entire sigmoid from the distal descending colon to the rectosigmoid junction, sparing the main left colic artery
  - c) Resection of the sigmoid and the descending colon, with high ligation of the IMA at its origin
  - d) Resection of the entire colon proximal to the lesion with IRA
- 118- Which of the following is true about HNPCC (Lynch syndrome)?**
- a) It is inherited as an autosomal recessive trait.
  - b) Most cancers in patients with HNPCC involve the right colon.
  - c) The average age at diagnosis is 62 years.
  - d) A segmental colectomy is frequently curative for these patients
- 119- A 54-year-old patient presents with rectal bleeding and tenesmus. She has a history of cervical cancer and underwent a hysterectomy and radiation therapy 5 months ago. She has no personal or family history of cancer, abdominal problems, or rectal bleeding and has not traveled recently. A surveillance CT 1 month ago was negative. Which of the following is the most likely diagnosis?**
- a) Ulcerative colitis
  - b) Ischemic colitis
  - c) Radiation proctitis
  - d) Recurrent cervical cancer
- 120- A 28-year-old patient with severe ulcerative colitis undergoes a total proctocolectomy with IPAA. Four days after the operation, she develops fever, anal pain, and tenesmus. Which of the following is the most likely diagnosis?**
- a) Small bowel obstruction
  - b) Pelvic sepsis
  - c) Ileo-anal anastomotic stricture
  - d) Pouch–vaginal fistula
- 121- Which of the following is the best initial management for acute colonic pseudo-obstruction (Ogilvie’s syndrome)?**
- a) Colonoscopy
  - b) Rectal tube decompression
  - c) Nasogastric tube decompression and correction of electrolytes
  - d) Neostigmine



**122- Which of the following screening tests provides the greatest effectiveness (reduction in mortality) in detecting CRC?**

- a) Annual fecal occult blood test (FOBT)
- b) Flexible sigmoidoscopy every 5 years
- c) Colonoscopy every 10 years
- d) Barium enema every 5 years

**123- Which of the following is true regarding rectal prolapse?**

- a) The extruded mucosa has radially orientated folds.
- b) Rectal prolapse occurs mostly in men, with a male-to female ratio of 6:1.
- c) The Altemeier procedure involves a full-thickness resection of the prolapsed rectum through a perineal approach.
- d) Fecal incontinence is not a predominant symptom in rectal prolapse.

**124- Which of the following is the most common cause of massive colonic bleeding?**

- a) CRC
- b) Ulcerative colitis
- c) Diverticulosis
- d) Ischemic colitis

**125- Which of the following statements is correct?**

- a) Backwash ileitis is associated with ulcerative colitis.
- b) Diversion colitis is associated with ulcerative colitis and Crohn's colitis.
- c) Microscopic colitis is associated with *Campylobacter* infection.
- d) Metronidazole is used to treat acute ileitis caused by *Yersinia* infection.

**126- With regard to the APC syndromes, which of the following statements is true?**

- a) Annual colonoscopic screening of family members should begin at the age of 25.
- b) Twenty-five percent of the offspring of an afflicted individual will have the disease.
- c) Abdominal colectomy and ileo-proctostomy eliminate the risk for carcinoma.
- d) Periampullary tumors are an important cause of death.

**127- Which of the following is the most important prognostic determinant of survival after treatment of CRC?**

- a) Lymph node involvement
- b) Transmural extension
- c) Tumor size
- d) Histologic differentiation

**128- A patient presents with a recently diagnosed 3-cm rectal cancer with its lower edge 4 cm from the anorectal ring. EUS shows a tumor extending through the muscularis propria with three adjacent lymph nodes measuring 1 cm each. CT scan does not show any evidence of distant spread to the liver or lungs. Which of the following is the most appropriate treatment for this patient?**

- a) APR with colostomy
- b) LAR with total mesocolon excision and anastomosis
- c) Chemotherapy and radiation followed by resection
- d) Preoperative external beam radiation therapy

- 129- A 73-year-old man undergoes an exploratory laparotomy and small bowel resection for small bowel obstruction. During his postoperative course, the patient develops diarrhea, abdominal tenderness, and distention. He is diagnosed with a postoperative ileus. A stool specimen is sent that is positive for *C. difficile* toxin. He is developing a significant leukocytosis, fever, and elevated creatinine. What is the recommended treatment?**
- a) Metronidazole oral
  - b) IV vancomycin
  - c) Piperacillin-tazobactam
  - d) IV metronidazole and vancomycin via a rectal tube
- 130- Which of the following is NOT a principle of Enhanced Recovery After Surgery (ERAS) protocols in colorectal surgery?**
- a) Multimodal analgesia
  - b) Hypothermia
  - c) Minimizing perioperative starvation
  - d) Early postoperative ambulation
- 131- Which of the following is not a type of caecal volvulus?**
- a) An axial volvulus from clockwise twisting where the torse cecum remains in the right lower quadrant
  - b) Upward folding of the cecum
  - c) Downward folding of the cecum
  - d) Bascule
- 132- Which of the following is the *least* appropriate operative strategy for a patient presenting with sigmoid diverticulitis and localized peritonitis?**
- a) Sigmoid colectomy with primary anastomosis
  - b) Sigmoid colectomy with primary anastomosis and diverting ileostomy
  - c) Sigmoid colectomy with end colostomy and rectal stump
  - d) Total colectomy
- 133- Which of the following is true regarding ileostomy construction and management?**
- a) Approximately 95% of patients with an ostomy tolerate it well with the improved quality of life.
  - b) One-third of patients require revision of their ileostomy for parastomal hernias, prolapse, or wound care issues.
  - c) New-onset necrotic skin changes around an ostomy can always be attributed to poor wound care.
  - d) Ostomy retraction helps facilitate pouching.
- 134- A 37-year-old man presents with a recurrent perianal abscess. The abscess was drained in the emergency department, and he is now being seen in the clinic for follow-up care. Which of the following is true about perirectal suppuration?**
- a) The pathophysiology of perirectal abscesses is related to infection of the perianal skin.
  - b) A horseshoe abscess is best drained at the bedside with the use of local anesthesia.
  - c) An intersphincteric abscess causes pain higher in the rectum, frequently without

external manifestations.

- d) Ischiorectal abscesses should be drained immediately under general anesthesia so that the fistula can be identified.

**135- All of the following are accepted applications of Endorectal ultrasound except:**

- a) Assessing sphincter integrity in patients complaining of fecal incontinence
- b) Determining whether a rectal cancer is suitable for local excision
- c) Ruling out recurrent rectal cancer
- d) Routine screening for rectal cancer

**136- A 41-year-old patient with persistent pruritus ani is seen for further treatment after having undergone a biopsy. Which of the following statements is correct regarding possible causes of this problem?**

- a) Bowen's disease progresses rapidly to invasive cancer and requires urgent wide local excision.
- b) Paget's disease of the perianal skin is often associated with breast cancer.
- c) Basal cell carcinomas of the anal margin have an excellent prognosis.
- d) Buschke-Löwenstein tumors are primarily treated by chemotherapy

**137- A 27-year-old man who engages in anal receptive intercourse has white, cauliflower-shaped masses throughout his perianal region and in the anal canal. Which of the following statements regarding his most likely condition is true?**

- a) The causative agent appears to be HPV.
- b) Podophyllin, administered in a 25% solution, results in the resolution of the warts in 80% of patients, and recurrence rates are less than 10%.
- c) Immunotherapy with vaccination is used as the initial treatment of small lesions.
- d) Carcinoma frequently develops if the lesions are left untreated.

**138- A 60-year-old woman complains of air and stool coming from her vagina. Digital rectal examination reveals an area of induration in the rectovaginal septum, although contrast barium enema does not demonstrate any abnormality. Which of the following statements regarding her probable condition is true?**

- a) Eighty-five percent of fistulas caused by obstetric trauma heal spontaneously.
- b) Low rectovaginal fistulas may be treated effectively by primary fistulotomy.
- c) Rectovaginal fistulas from Crohn's disease usually require proctectomy.
- d) Repairs of radiation-induced rectovaginal fistulas generally include a stoma.

**139- A 65-year-old woman presents to your office reporting 1 year of fecal incontinence. She states that she experiences the loss of loose stools twice per week. She typically passes five loose or watery stools daily. She has a history of four vaginal deliveries including at least one episiotomy. She had a normal screening colonoscopy 1 year ago. The most appropriate initial treatment for these symptoms is:**

- a) Colostomy
- b) Bulk-forming agents and loperamide
- c) Sacral nerve stimulation
- d) Artificial bowel sphincter

- 140- An 18-year-old otherwise healthy college student presents to your office complaining of chronic, recurrent pain, and drainage from a wound at the superior aspect of his gluteal cleft. On examination, he has a single midline pit with minimal serous drainage and no surrounding erythema. There are no surrounding sinus tracts. He has never received medical attention for this issue. The most appropriate management is:**
- a) A cleft lift procedure
  - b) Observation
  - c) Topical clindamycin
  - d) Excision with off-midline closure
- 141- Which of the following patients has the highest risk of developing colorectal cancer?**
- a) A 46-year-old man whose younger brother is just diagnosed with colon cancer
  - b) A 46-year-old woman with BRCA1 mutation
  - c) A 46-year-old man with 12-year history of ulcerative colitis
  - d) A 46-year-old man with familial adenomatous polyposis (FAP) syndrome
- 142- Which of the following is the most appropriate treatment for a 40-year-old man with a T3N1 carcinoma of the ascending colon?**
- a) Preoperative chemo-radiation therapy followed by right hemicolectomy
  - b) Right colectomy and postoperative adjuvant therapy with oxaliplatin, 5-FU, and leucovorin
  - c) Endoscopic removal of the tumor followed by chemo-radiation therapy
  - d) Right hemicolectomy and postoperative radiation and tamoxifen therapy
- 143- Which of the following is the most appropriate surveillance strategy for a 60-year-old man who recently had complete endoscopic removal of a 1 cm pedunculated polyp from the transverse colon?**
- a) Annual colonoscopy
  - b) Repeat colonoscopy in 5 years, and if negative, repeat every 5 to 10 years
  - c) CT scan of the chest, abdomen, pelvis, repeat colonoscopy at 3 years, and if negative, repeat every 5 years
  - d) Repeat colonoscopy every 2 years
- 144- A 58-year-old man with a history of stage III colon cancer that was treated by colectomy and adjuvant FOLFOX4 regimen develops a sudden rise in his serum CEA level and is found on CT scan to have a 2-cm lesion in the greater omentum. A CT-guided biopsy of this mass revealed metastatic adenocarcinoma. Which of the following is the most appropriate treatment?**
- a) Radiation therapy
  - b) Operative resection of the mass
  - c) Systemic therapy with chemotherapy and biologic agents
  - d) Immunotherapy

- 145- A 43-year-old woman presents with blood per rectum and is found to have a circumferential but non-obstructing adenocarcinoma located at 7 cm from the anal verge. Which of the following is the best treatment approach for this patient?**
- a) Surgical resection, chemotherapy if node positive, and surveillance
  - b) Surgical resection, radiation therapy, and chemotherapy if node positive
  - c) Radiation therapy followed by systemic chemotherapy
  - d) Endoscopic resection followed by radiation therapy
- 146- Which of the following colon polyps carries the worse prognosis?**
- a) A 0.8 cm hyperplastic polyp without evidence of serrated Adenomatous changes
  - b) A man with a 20-year history of ulcerative colitis involving the left colon with pseudopolyps in the rectum
  - c) A 1.5 cm serrated adenomatous polyp
  - d) A 45-year-old man FAP with multiple colonic polyps
- 147- A 53-year-old man undergoes his initial colonoscopy and was found to have a 1.9-cm pedunculated polyp in the sigmoid colon. This polyp was completely resected endoscopically. The pathology of the polyp reveals well-differentiated, invasive adenocarcinoma extending into the submucosa, and the stalk and the margin of resection are not involved with cancer. A subsequent CT scan of the abdomen and pelvis reveals no abnormalities. Which of the following is the most appropriate treatment?**
- a) Observation with repeat colonoscopy every 3 years
  - b) Radiation therapy and repeat colonoscopy every 3 years
  - c) Sigmoid colectomy and repeat colonoscopy every 3 years
  - d) Sigmoid colectomy, radiation therapy, and repeat colonoscopy every 3 years
- 148- An asymptomatic 63-year-old woman undergoes her initial colonoscopy and is found to have a non-obstructing adenocarcinoma in the descending colon. A staging CT scan reveals extensive metastatic disease in the liver involving approximately 45% of the liver distributed in both the right and left lobes. Which of the following is the most appropriate treatment for her?**
- a) Laparoscopic sigmoid colectomy and systemic chemotherapy treatment
  - b) Systemic chemotherapy
  - c) Laparoscopic colectomy, radiation therapy, and systemic chemotherapy
  - d) Sigmoid colectomy followed by resection, and ablative therapy for the liver metastases followed by systemic chemotherapy
- 149- Which of the following statements regarding UC is true?**
- a) Proctocolectomy is associated with improvements in some extracolonic manifestations associated with UC
  - b) The risk of colorectal cancer in UC patients has been markedly underestimated
  - c) The peak age at diagnosis is the 6th decade
  - d) Tobacco smoking is associated with disease exacerbation

**150- Which of the following statements is TRUE regarding diverticulitis?**

- a) Patients with diverticulitis diagnosed prior to 40 years of age should have sigmoid colectomy performed to prevent future occurrences
- b) Patients with four or more bouts of diverticulitis should have elective colectomy to prevent future occurrences
- c) High-fiber diet has been shown to prevent diverticulitis recurrences
- d) Rifaximin is effective in improving symptoms related to diverticulitis

**151- A 39-year-old man comes to your office with the complaint that he has noticed mucous-like discharge on his underwear; he denies any pain associated with this process. He indicates that the problem has been ongoing for 2 to 3 weeks. When questioned regarding past history of anorectal complaints, the man indicates that several years ago, he had some severe pain in his anal area that spontaneously resolved after several days. Which of the following is the most likely current problem for this patient?**

- a) Crohn disease
- b) Chronic perirectal abscess
- c) Anal fissure
- d) Fistula-in-ano

**152- Which of the following is the best treatment option for this patient?**

- a) Repeat drainage of the abscess
- b) Lateral internal sphincterotomy
- c) Botulinum toxin injection
- d) Seton placement and delayed LIFT

**153- Which of the following is considered the most appropriate treatment for acute anal fissure?**

- a) Infrared coagulation, Sitz baths, and oral antibiotics
- b) Rubber band ligation, suppositories, and topical antibiotics
- c) Increased dietary fiber, Sitz baths, and nitroglycerin ointment
- d) Infrared coagulation and fissurectomy

**154- A 44-year-old man is being evaluated for possible anal fissure. Which of the following findings are suggestive of anal fissure?**

- a) Fever, fluctuant mass
- b) Painless rectal bleeding, purple perianal mass,
- c) Presence of a sinus tract with discharge and local fluctuance
- d) Severe anal pain, with a tear in the posterior anoderm

**155- Which of the following is the most appropriate treatment of a man with a 1.5 cm, prolapsed circumferential mucosal mass that occurs during defecation and requires manual reduction with some effort?**

- a) Dietary modification and stool bulking agents
- b) Lateral internal sphincterotomy
- c) LIFT procedure
- d) Stapled hemorrhoidectomy.

❖ *Select the most appropriate surgical procedure for each patient. Each lettered option may be used once, more than once, or not at all.*

- 156- A 37-year-old man with a 10-year history of ulcerative colitis who has a sessile polyp 10 cm from the anal verge with high-grade dysplasia. **D**
- 157- A 60-year-old woman with recurrent squamous cell carcinoma of the anus after chemoradiation. **B**
- 158- A 68-year-old woman with fecal incontinence who presents with a large fixed adenocarcinoma 3 cm from the anal verge. **B**
- 159- A 33-year-old man with a history of Crohn's disease presents with severe abdominal pain and fever. On examination, his heart rate is 130 beats per minute, blood pressure 105/62 mm Hg, and temperature 38.9°C (102°F). Workup reveals a leukocytosis of 32,000/mm<sup>3</sup>. Plain films reveal a markedly dilated large colon. **C**

- a) Low anterior resection
- b) Abdominoperineal resection
- c) Subtotal colectomy with end ileostomy
- d) Total proctocolectomy with ileoanal J-pouch
- e) Sigmoid resection with end colostomy (Hartmann procedure)
- f) Diverting colostomy

❖ *Choose and match the correct diagnosis with each of the scenarios given below:*

- 160- A 68-year-old male presents with bright red painless bleeding. He has an associated history of recent change in bowels and a sensation of incomplete defecation. **D**
- 161- A 32-year-old female complains of fresh blood per rectum and some discomfort following a recent pregnancy. She mentions a tendency towards constipation. **A**
- 162- A 28-year-old male is referred with a history of severe anal pain associated with defecation. He also has streaks of fresh blood per rectum. He has a long history of hard stools and straining. **B**
- 163- An 82-year-old male who has had three previous myocardial infarctions and a recent abdominal aortic aneurysm (AAA) repair complains of abdominal pain and darkish rectal bleeding. **G**
- 164- A 90-year-old female with a long history of constipation is referred to the hospital with lower abdominal pain on and off and painless dark blood per rectum. **H**
- 165- An 18-year-old student who has just returned from travelling in his gap year



presents with bloody diarrhea and colicky abdominal pain. **F**

**166- A 24-year-old female presents with a 6-month history of diarrhea along with blood and mucus. She has lost a stone in weight. She says that her mother has also had chronic bowel problems and presently has a stoma. **E****

**167- A 30-year-old male presents with a 2-week history of severe tenesmus and fresh blood per rectum. He is known to be HIV-positive. **C****

- a) Haemorrhoids
- b) Anal fissure
- c) Proctitis
- d) Rectal cancer
- e) Ulcerative colitis
- f) Infective colitis
- g) Ischaemic colitis
- h) Diverticulitis

### **E- Hepatobiliary and pancreatic surgery**

**1. The anatomical division of the liver is based on:**

- a) Surface markings of the liver.
- b) Hepatic artery and bile duct anatomy.
- c) Portal vein and hepatic artery anatomy.
- d) Hepatic artery, hepatic vein and biliary anatomy.

**2. Which of the following statements regarding the anatomy of the liver is true?**

- a) The anatomical division of the hepatic artery, bile duct and portal vein is regular and identical.
- b) The hepatic artery and bile duct anatomy is regular and identical.
- c) The hepatic artery and portal vein anatomy is regular and identical.
- d) The bile duct and portal vein anatomy is regular and identical.

**3. Anatomically the liver can be divided into:**

- a) 4 sectors and 9 segments.
- b) 6 sectors and 9 segments.
- c) 5 sectors and 9 segments.
- d) 8 sectors and 8 segments.

**4. Which of the following statements regarding the plane that intersects the liver into the right and left liver is true?**

- a) It goes through the left hepatic vein.
- b) It goes through the right hepatic vein.
- c) It goes through the falciform ligament.
- d) It goes through the inferior vena cava and gallbladder.

**5. Which one of the following statements regarding the volume of the normal**



**liver is true?**

- a) The ratio between the right and left liver is 40:60.
  - b) The ratio between the right and left liver is 50:50.
  - c) The ratio between the right and left liver is 75:25.
  - d) The ratio between the right and left liver is 60:40.
- 6. Which one of the following statements with regard to the histology of the liver is incorrect?**
- a) A lobule is the basic functional unit of the liver.
  - b) Liver sinusoids are lined by endothelial cells and Kupffer cells.
  - c) The portal triad consists of branches of the portal vein, hepatic artery and bile duct.
  - d) The central part of the liver lobule has a better supply of oxygen and nutrients.
- 7. Which of the following statements regarding the caudate lobe of the liver is true?**
- a) It receives its arterial supply from both the right and left hepatic arteries.
  - b) It receives its arterial supply from the right hepatic artery.
  - c) It drains into the right hepatic vein.
  - d) It drains into the left hepatic duct.
- 8. Which of the following statements regarding the anatomy of the left branch of the portal vein is true?**
- a) It acts as a conduit between the umbilical vein and ductus venosus in utero.
  - b) The horizontal portion is located under segment 4.
  - c) It has horizontal and transverse portions.
  - d) All of the above.
- 9. The ligamentum venosum is:**
- a) A remnant of the vitello-intestinal duct.
  - b) A remnant of the ductus venosus.
  - c) Obliterated left umbilical artery.
  - d) Obliterated right umbilical vein.
- 10. Which of the following statements regarding the anatomy of the left hepatic vein is true?**
- a) It begins in the plane between segments 2 and 4.
  - b) It begins in the plane between segments 2 and 3.
  - c) It joins the right hepatic vein before it joins the inferior vena cava.
  - d) The umbilical vein attaches to the left hepatic vein at its insertion into the inferior vena cava.
- 11. Which of the following statements regarding the anatomical importance of the cystic plate is true?**
- a) It must be divided to visualize the anterior surface of the right portal pedicle.
  - b) It attaches directly on to the anterior surface of the right portal pedicle.
  - c) It is the fibrous surface that is encountered during cholecystectomy.
  - d) All of the above.
- 12. The most posterior structure in the hepatoduodenal ligament IS:**
- a) Portal vein.
  - b) Hepatic artery.
  - c) Common bile duct.
  - d) Inferior vena cava.
- 13. Which one of the following statements regarding the arterial supply of the**

**liver is true?**

- a) In the majority of patients the right hepatic artery originates from the superior mesenteric artery,
- b) In 25% of patients part or all of the liver is supplied by a replaced artery.
- c) A replaced artery means that it is an additional artery supplying the liver.
- d) The left hepatic artery originates from the left gastric artery.

**14. The most common anatomical variation of the portal vein IS:**

- a) Absence of the left portal vein.
- b) Absence of the right portal vein.
- c) Absence of the left medial sectional vein.
- d) Absence of the right posterior sectional vein.

**15. The boundaries of the hepato-cystic (Calot's) triangle are formed by the:**

- a) Gallbladder, common bile duct and liver.
- b) Gallbladder, cystic artery and cystic duct.
- c) Gallbladder, right hepatic artery and right hepatic duct.
- d) Right side of the common hepatic duct, liver and cystic duct.

**16. All of the following are the contents of the hepatocystic (Calot's) triangle, EXCEPT:**

- a) Cystic duct.
- b) Cystic artery.
- c) Cystic lymph node.
- d) A portion of the right hepatic artery.

**17. The arterial supply to the bile duct is derived from:**

- a) The portion of the bile duct below the bifurcation and above the duodenum is supplied by two longitudinal arteries at the 3 and 9 o'clock positions.
- b) The portion of the bile duct below the bifurcation and above the duodenum is supplied by two longitudinal arteries at the 6 and 12 o'clock positions.
- c) The lower end of the bile duct is supplied by the gastroduodenal artery.
- d) a and c.

**18. To avoid injury to the pancreatic duct during sphincteroplasty, the ampulla of Vater should be opened between:**

- a) 10 and 12 o'clock.
- b) 12 and 2 o'clock.
- c) 9 and 6 o'clock.
- d) 4 and 6 o'clock.

**19. Which one of the following structures is not related to the posterior surface of the pancreas?**

- a) Right kidney,
- b) Abdominal aorta.
- c) Right adrenal gland.
- d) Inferior vena cava and right gonadal vein.

**20. The most common benign liver tumor of mesenchymal origin IS:**

- a) Hemangioma.
- b) Liver cell adenoma.
- c) Biliary cystadenoma.
- d) Focal nodular hyperplasia.

**21. Which of the following statements regarding hemangioma of the liver is true?**

- a) There is usually a normal plane between the hemangioma and liver tissue.
  - b) Cavernous hemangioma is more common than capillary hemangioma.
  - c) Cavernous hemangiomas are small and often multiple.
  - d) Hemangiomas are usually symptomatic.
- 22. The most accurate test in the diagnosis and characterization of cavernous Hemangioma of the liver IS:**
- a) Ultrasound of the liver.
  - b) Doppler ultrasound of the liver.
  - c) Computed tomography of the liver.
  - d) Magnetic resonance imaging of the liver.
- 23. In patients with Hemangioma of the liver, surgery should be offered to patients with:**
- a) Symptomatic lesion.
  - b) Hemangioma of more than 4 cm.
  - c) Hemangioma of more than 10 cm.
  - d) Small hemangioma with abdominal pain.
- 24. All of the following increases the risk of liver cell adenoma, EXCEPT:**
- a) Diabetes.
  - b) Tyrosinaemia
  - c) Androgen steroids.
  - d) Glycogen storage diseases.
- 25. Which of the following statements regarding liver cell adenoma is true?**
- a) It is common males
  - b) They are usually multiple.
  - c) Liver cell adenoma infrequently presents with pain due to hemorrhage.
  - d) It is associated with an increased risk of hemorrhage during pregnancy.
- 26. Which one of the following statements regarding treatment of liver cell adenoma is correct?**
- a) Surgery should be considered in all patients.
  - b) Surgery should be considered only in symptomatic patients.
  - c) Surgery should be considered only in patients with hemorrhage.
  - d) Surgery should be considered only in patients with multiple lesions.
- 27. Focal nodular hyperplasia IS:**
- a) Benign liver lesion.
  - b) A pre-malignant tumor.
  - c) Associated with oral contraceptive usage.
  - d) Associated with intralesional hemorrhage.
- 28. Which one of the following statements regarding the management of focal nodular hyperplasia is correct?**
- a) It does not require surgery.
  - b) It should be resected in all cases.
  - c) It should be resected only if there is a diagnostic uncertainty.
  - d) None of the above.
- 29. The most commonly isolated organisms from a pyogenic liver abscess ARE:**
- a) Streptococcus faecalis.
  - b) Staphylococcus aureus.
  - c) Pseudomonas aeruginosa.
  - d) Escherichia coli, Klebsiella, Bacteroides.
- 30. The most common etiology of liver abscess IS:**
- a) Pneumonia.
  - b) Cholangitis.
  - c) Appendicitis.
  - d) Diverticulitis.
- 31. A 65-year-old male patient presents with gallstones and a 7 cm liver abscess**

- adjacent to the gallbladder. The most appropriate treatment IS:**
- a) A long course of antibiotics.
  - b) Cholecystectomy followed by 3-6 week course of antibiotics.
  - c) Percutaneous aspiration of the liver abscess and interval cholecystectomy.
  - d) Percutaneous drainage of the liver abscess and interval cholecystectomy.
- 32. An anchovy sauce appearance of fluid aspirated from a liver abscess is characteristic of:**
- a) Infected hydatid cyst.
  - b) Pyogenic liver abscess.
  - c) Amoebic liver abscess.
  - d) Necrotic liver metastasis.
- 33. All of the following are intermediate hosts for Echinococcus infection, EXCEPT:**
- a) Dogs.
  - b) Sheep
  - c) Humans.
  - d) Goats.
- 34. Cystadenoma of the liver is a:**
- a) Benign tumor.
  - b) Malignant tumor.
  - c) Pre-malignant tumor.
  - d) None of the above.
- 35. The treatment of choice for cystadenoma of liver IS:**
- a) Surgical excision if there are any features suggestive of malignancy on imaging.
  - b) Surgery should be offered to symptomatic patients.
  - c) Surgical excision in all patients.
  - d) No treatment required.
- 36. Which one of the following statements regarding the etiology of hepatocellular carcinoma of the liver is NOT TRUE?**
- a) It can develop at any stage of hepatitis B infection.
  - b) It can develop in patients with hepatitis E infection.
  - c) It is very rare in patients with hepatitis C without cirrhosis.
  - d) None of the above.
- 37. All of the following are risk factors for hepatocellular carcinoma (HCC), EXCEPT:**
- a) Obesity.
  - b) Hepatitis C infection.
  - c) Hepatitis B infection.
  - d) Oral contraceptive usage.
- 38. The risk of hepatocellular carcinoma (HCC) is low in which one of the following groups of patients with hepatitis B infection:**
- a) HBsAg negative patients.
  - b) Alcohol and aflatoxin exposure.
  - c) HBsAg and HBeAg positive patients.
  - d) HBsAg antibody positive patients.
- 39. The best and the most effective way of decreasing the incidence of hepatitis B virus (HBV) related hepatocellular carcinoma (HCC) IS:**
- a) Hepatitis B immunoglobulin injection on a regular basis.
  - b) Vaccination against hepatitis B virus.
  - c) Regular exercise and avoiding alcohol.
  - d) Anti-retroviral medication.
- 40. The risk of hepatocellular carcinoma (HCC) correlates with:**

- a) Male gender.
  - b) Duration of disease.
  - c) Severity of hepatitis.
  - d) All of the above.
- 41. Which one of the following statements regarding hepatitis C virus (HCV) related hepatocellular carcinoma (HCC) is true?**
- a) The risk of HCC is high in females.
  - b) HCC can be seen in patients without cirrhosis.
  - c) The risk of HCC is not related to the duration of disease.
  - d) HCV related HCC is very rare before the age of 40 in the absence of other co-factors.
- 42. All of the following are risk factors for hepatocellular carcinoma (HCC), EXCEPT:**
- a) Hemochromatosis.
  - b) Tay-Sachs disease.
  - c) Alpha-1 antitrypsin deficiency.
  - d) Non-alcoholic fatty liver disease.
- 43. In patients with hepatocellular carcinoma (HCC), portal vein invasion is influenced by all of the following factors, EXCEPT:**
- a) Gender.
  - b) Type of HCC.
  - c) Size of the tumor.
  - d) Differentiation of the tumor.
- 44. The most common site of metastases in patients with hepatocellular carcinoma (HCC) is:**
- a) Bone.
  - b) Lungs.
  - c) Lymph node.
  - d) Adrenal gland.
- 45. A 60-year-old male patient of Asian origin with a known history of cirrhosis of the liver presents to A&E with a sudden onset of severe epigastric pain. On clinical examination he is pale, pulse rate 110/min and blood pressure 100/50 mmHg. Abdominal examination reveals signs of peritonitis. What is the most likely diagnosis?**
- a) Acute pancreatitis.
  - b) Perforated duodenal ulcer.
  - c) Perforated diverticular disease.
  - d) Ruptured hepatocellular carcinoma (HCC).
- 46. Which of the following statements regarding  $\alpha$ -fetoprotein (AFP) as a tumor marker for hepatocellular carcinoma (HCC) is TRUE?**
- a) AFP is also elevated in other tumors.
  - b) AFP has high sensitivity and specificity.
  - c) AFP has low sensitivity and specificity.
  - d) 75% of patients with chronic active hepatitis without HCC can have a raised AFP.
- 47. The characteristic feature of hepatocellular carcinoma (HCC) on contrast enhanced CT scan IS:**
- a) Late uptake and late washout.
  - b) Early uptake and late washout.
  - c) Early uptake and early washout.
  - d) A hyperdense lesion with extrahepatic lymph node involvement.
- 48. The investigation of choice for the diagnosis of hepatocellular carcinoma**

**(HCC) of size less than 2 cm IS:**

- a) CT scan.
- b) Ultrasound.
- c) Contrast ultrasound.
- d) Magnetic resonance imaging of the liver.

**49. Screening should be considered for a disease:**

- a) When the mortality from the disease is very high.
- b) When early diagnosis doesn't affect patient survival.
- c) When there is no available diagnostic tool to diagnose the disease early.
- d) When there is no clearly defined progression of the disease from premalignant to malignant lesions.

**50. The treatment or choice in patients with a 4 cm hepatocellular carcinoma (HCC) in a non-cirrhotic liver IS:**

- a) Liver resection.
- b) Chemoembolization.
- c) Liver transplantation.
- d) Percutaneous ethanol injection.

**51. The best treatment option for a 3 cm nodule suspicious of hepatocellular carcinoma (HCC) in a 40-year-old male patient with Child's A cirrhosis IS:**

- a) Liver transplantation.
- b) Radiofrequency ablation.
- c) Trans-arterial chemoembolization (TACE).
- d) Trans-arterial chemoembolization (TACE) followed by liver transplantation.

**52. Liver transplantation is inappropriate in all of the following reasons, EXCEPT:**

- a) 5 cm suspicious nodule in a cirrhotic liver.
- b) Child's C cirrhosis with a suspicious nodule of 8 cm.
- c) 5 suspicious nodules each measuring less than 4.5 cm.
- d) Multiple suspicious nodules each measuring less than 1 cm.

**53. All of the following variables have been found to be associated with an increased risk of recurrence of hepatocellular carcinoma (HCC), EXCEPT:**

- a) Tumor >5 cm.
- b) Presence of venous invasion.
- c) Presence of capsular invasion.
- d) Intraoperative blood transfusion.

**54. The rationale behind the use of trans-arterial chemoembolization (TACE) as one of the treatment options for hepatocellular carcinoma (HCC) IS:**

- a) It is the most effective treatment.
- b) It receives blood supply from the portal vein.
- c) It receives blood supply from the hepatic artery.
- d) It affects lesions which are not visualized by either CT or magnetic resonance imaging of the liver.

**55. All of the following are contraindications for transarterial chemoembolization (TACE), EXCEPT:**

- a) Gallstones.
- b) Biliary obstruction.
- c) Portal vein thrombosis.
- d) Decompensated liver disease.

**56. Complications of trans-arterial chemoembolization (TACE) include:**

- a) Chemoembolization syndrome.
  - b) Acute cholecystitis.
  - c) Acute pancreatitis.
  - d) All of the above.
- 57. The fibrolamellar variant of hepatocellular carcinoma (HCC) differs from classical HCC in all of the following factors, EXCEPT:**
- a) It is uncommon in patients with chronic liver disease.
  - b) It is associated with good prognosis.
  - c) It is more common in females.
  - d) It occurs at a young age.
- 58. The characteristic of colorectal liver metastases on CT scan IS:**
- a) Hyperdense.
  - b) Calcification.
  - c) Hypervascular.
  - d) Hypovascular.
- 59. A 35-year-old male patient with a right-sided colonic carcinoma is found to have multiple colorectal liver metastases confined to the right liver by staging CT. This patient should be offered:**
- a) Right hemicolectomy followed by right hepatectomy.
  - b) Simultaneous right hemicolectomy and right hepatectomy.
  - c) Liver resection followed by right hemicolectomy at a later stage.
  - d) Neoadjuvant chemotherapy followed by liver and colonic resection.
- 60. Liver resection is not indicated in patients with which of the following:**
- a) 5 cm metastatic deposit in the left lateral sector.
  - b) Unresectable extrahepatic lymph nodal disease.
  - c) 3 cm metastatic deposit in the right posterior sector.
  - d) 3 cm metastatic deposit in the right lower lobe of the lung.
- 61. Autoimmune pancreatitis is associated with elevated serum levels of which of the following immunoglobulins (Ig)?**
- a) IgM.
  - b) IgA.
  - c) IgG4.
  - d) IgD.
- 62. The treatment of choice for patients with suspected autoimmune pancreatitis IS:**
- a) Steroids.
  - b) NSAIDs.
  - c) Infliximab.
  - d) Methotrexate.
- 63. Which of the following statements regarding gallbladder dyskinesia is incorrect?**
- a) It is associated with abnormal liver enzymes.
  - b) Pain is not relieved by bowel movements, postural change or antacids.
  - c) It is associated with the absence of sludge, stones or microlithiasis in the gallbladder.
  - d) The gallbladder ejection fraction after infusion of cholecystokinin for more than 30 minutes is less than 40%.
- 64. Which of the following is not an effect of cholecystokinin?**
- a) Relaxation of the pylorus.
  - b) Contraction of the gallbladder.
  - c) Relaxation of the sphincter of Oddi.
  - d) Relaxation of the lower esophageal sphincter.
- 65. The gold standard test in the diagnosis of dysfunction of the sphincter of Oddi IS:**



- a) Manometry,
  - b) Cholecystokinin scintigraphy.
  - c) Endoscopic ultrasound (EUS).
  - d) Endoscopic retrograde cholangiopancreatography (ERCP).
- 66. Which of the following statements regarding type 1 dysfunction of the sphincter of Oddi is incorrect?**
- a) Over 90% benefit from sphincterotomy.
  - b) Manometry can be normal in 14-35% of patients.
  - c) Usually requires manometry to establish the diagnosis.
  - d) Associated with a common bile duct diameter of more than 8 mm.
- 67. Which one of the following is not required for making a diagnosis of pancreatic sphincter of Oddi dysfunction (SOD)?**
- a) Normal pancreatic enzymes.
  - b) Pancreatic enzymes > 1.5 times normal.
  - c) Delayed drainage of contrast by ERCP of >9 min.
  - d) Pancreatic duct diameter of more than 6 mm in the neck and >5 mm in the body.
- 68. Which of the following statements regarding capecitabine is incorrect?**
- a) It is as effective as 5-FU.
  - b) It is the oral form of 5-FU.
  - c) It is an analogue of 5-fluorouracil (5-FU).
  - d) It acts by inhibiting thymidine phosphorylase.
- 69. A 56-year-old male patient with neurofibromatosis presents with right renal cell carcinoma with involvement of the adrenal gland and segments V and VI of the liver. The best treatment option is:**
- a) Palliative chemotherapy.
  - b) Chemotherapy followed by surgery.
  - c) Right radical nephrectomy and right hemihepatectomy.
  - d) Chemoradiotherapy followed by radical nephrectomy and liver resection.
- 70. The side-effects of oxaliplatin include all of the following, EXCEPT:**
- a) Blue liver syndrome.
  - b) Peripheral neuropathy.
  - c) Hand-foot syndrome.
  - d) None of the above.
- 71. Which of the following factors is not useful in predicting the risk of variceal hemorrhage?**
- a) Etiology of the cirrhosis.
  - b) Size of the varices.
  - c) Severity of liver dysfunction.
  - d) Presence of red spots or a red wheal on esophagogastroscope.
- 72. Which of the following parameters are included in the Child-Pugh scoring system?**
- a) Bilirubin, sodium, prothrombin time, ascites and nutritional status.
  - b) Bilirubin, albumin, prothrombin time, ascites and nutritional status.
  - c) Bilirubin, creatinine, prothrombin time, ascites and nutritional status.
  - d) Bilirubin, albumin, prothrombin time, ascites and encephalopathy
- 73. The risk of early variceal re-hemorrhage is increased by all of the following**



**factors, EXCEPT:**

- a) A hepatic venous pressure gradient of >12 mmHg.
- b) Active hemorrhage at the time of initial endoscopy.
- c) Presence of ascites.
- d) None of the above.

**74. The incidence of re-hemorrhage from esophageal varices in the first 6 weeks IS:**

- a) 5%.
- b) 75%.
- c) 10-15%.
- d) 30-40%.

**75. Which of the following parameters are included in the calculation of the modified end-stage liver disease (MELD) scoring system?**

- a) INR, bilirubin and creatinine.
- b) Bilirubin, albumin, prothrombin time, ascites and encephalopathy.
- c) Bilirubin, albumin, prothrombin time, ascites and nutritional status.
- d) Sodium, international normalized ratio (INR), bilirubin and creatinine.

**76. All of the following except one is an extrahepatic cause of portal hypertension:**

- a) Schistosomiasis.
- b) Tropical splenomegaly.
- c) Portal vein thrombosis.
- d) Splenic vein thrombosis.

**77. The Child-Pugh score in a 35-year-old male patient with alcoholic cirrhosis, with a moderate amount of ascites, normal sensorium, bilirubin of 35 mmol/L, albumin of 30 gm/L and prothrombin time of 23 seconds IS:**

- a) 5.
- b) 7.
- c) 8.
- d) 9.

**78. In patients with portal hypertension, the appearance of complications such as variceal hemorrhage and ascites occur when the hepatic venous pressure gradient is greater than:**

- a) 5 mmHg.
- b) 12 mmHg.
- c) 20 mmHg.
- d) 5 mmH<sub>2</sub>O.

**79. The best prophylactic option in preventing a variceal bleeding a patient who cannot tolerate  $\beta$ -blockers IS:**

- a) Therapy with nitrate.
- b) Variceal sclerotherapy.
- c) Variceal band ligation.
- d) Distal splenorenal shunt.

**80. The treatment of choice to stop variceal bleed following initial resuscitation IS:**

- a) Injection of adrenaline.
- b) Endoscopic sclerotherapy.
- c) Endoscopic band ligation.
- d) Transjugular portosystemic shunt.

**81. The initial treatment of choice in a patient presenting with hemorrhage from gastric varices IS:**

- a) Endoscopic sclerotherapy with cyanoacrylate.
- b) Sengstaken-Blakemore tube intubation.
- c) Transjugular portosystemic shunt.
- d) Variceal band ligation.

**82. The risk of encephalopathy is greater following transjugular intrahepatic**

**portosystemic shunt (TIPS) procedure in patients with:**

- a) Younger patients.
- b) Advanced liver disease.
- c) Patients with small diameter shunts.
- d) Patients with a prior history of encephalopathy.

**83. The best treatment option for a patient with cirrhosis with refractory ascites IS:**

- a) Transjugular intrahepatic portosystemic shunt (TIPS).
- b) Repeated large volume paracentesis.
- c) Sapheno-peritoneal shunt.
- d) Liver transplantation.

**84. Budd-Chiari syndrome occurs due to:**

- a) Cirrhosis of the liver.
- b) Occlusion of the portal vein.
- c) Occlusion of the splenic vein.
- d) Occlusion of the hepatic veins.

**85. All of the following are clinical features of acute Budd-Chiari syndrome, EXCEPT:**

- a) Abdominal swelling.
- b) Acute abdominal pain.
- c) Acute fulminant liver failure.
- d) Esophageal variceal hemorrhage.

**86. The most useful surrogate marker of the optimum dose of  $\beta$  blockers in the absence of a hepatic venous pressure gradient measurement for the primary prophylaxis of variceal hemorrhage IS:**

- a) Clinical tolerance.
- b) Arterial hypotension.
- c) Development of asthma.
- d) Heart rate decreases by 25%.

**87. The treatment of choice in a patient with acute Budd-Chiari syndrome not responding to medical treatment IS:**

- a) Shunt surgery.
- b) Liver transplantation.
- c) Transjugular intrahepatic portosystemic shunt (TIPS).
- d) Transjugular or transfemoral balloon dilatation of the hepatic vein.

**88. The treatment of choice in a patient with segmental left-sided portal hypertension due to splenic vein thrombosis secondary to chronic pancreatitis IS:**

- a) Transjugular intrahepatic portosystemic shunt (TIPS).
- b) No specific treatment required.
- c) Liver transplantation.
- d) Splenectomy.

**89. The following vaccines are recommended following splenectomy:**

- a) Hepatitis B, pneumococcal, meningococcal.
- b) Pneumococcal, hepatitis A, meningococcal.
- c) Pneumococcal, H influenza, meningococcal.
- d) Meningococcal, Japanese encephalitis, hepatitis B.

**90. In the majority of cases, overwhelming post-splenectomy infection (OPSI) is**

**due to:**

- |                               |                          |
|-------------------------------|--------------------------|
| a) Streptococcus pneumoniae.  | c) Hemophilus influenza. |
| b) Capnocytophaga canimorsus. | d) Escherichia coli.     |

**91. A 14-year-old boy was chased by his friends and hit by a large stone on his left lower chest and renal angle. He managed to get home and was found collapsed in his bedroom by his mother. At the time of his arrival to A&E, his GCS is 13/15, pulse 130/min, systolic blood pressure 80 mmHg, and on clinical examination he has tenderness over his left renal angle and left upper quadrant. Chest X-rays show a fracture of the 9th and 10th ribs. The initial management of this patient includes:**

- |   |                |
|---|----------------|
| a) Focused abdominal sonography for trauma (FAST) scan. | d) Laparotomy. |
| b) Urgent CT scan of the abdomen.                       |                |
| c) Fluid resuscitation.                                 |                |

**92. The indication for angiography in hemodynamically stable patients with splenic trauma include all of the following, EXCEPT:**

- |   |                              |
|---|------------------------------|
| a) Grade 1 and 2 injury.                      | b) Grade 3 or higher injury. |
| c) Presence of pseudoaneurysm.                |                              |
| d) Evidence of ongoing hemorrhage on CT scan. |                              |

**93. The most common type of gallstones ARE:**

- |                        |  |
|------------------------|--|
| a) Pigment stones.     | c) Calcium oxalate stones.               |
| b) Cholesterol stones. | d) Mixed cholesterol and pigment stones. |

**94. A 25-year-old female patient presents with acute lower chest pain associated with vomiting. Her pulse rate is 90/min and temperature 37.5°C. Clinical examination reveals mild tenderness in the right upper quadrant. An ultrasound scan shows gallstones. She is treated with analgesics and discharged home with a date for elective laparoscopic cholecystectomy. She represents a week later with features of obstructive jaundice. What is the next step in the management of this case?**

- |  |  |
|--|--|
| a) Repeat ultrasound scan.   |  |
| b) Open cholecystectomy with bile duct exploration.  |  |
| c) Laparoscopic cholecystectomy with bile duct exploration.                                      |  |
| d) Endoscopic retrograde cholangiopancreatography (ERCP) and extraction of the bile duct stones. |  |

**95. All of the following are risk factors for cholesterol gallstones, EXCEPT:**

- |                       |                                    |
|-----------------------|------------------------------------|
| a) Cirrhosis.         | c) Hemolytic anemia.               |
| b) Diabetes mellitus. | d) Long-term parenteral nutrition. |

**96. The pathogenesis of cholesterol stones is due to:**

- |  |  |
|--|--|
| a) Bacterial infection of bile.  |  |
| b) An. excessive amount of cholesterol in diet.  |  |
| c) Loss of equilibrium between phospholipids, cholesterol and bile salts.                |  |
| d) Loss of equilibrium between cholesterol, bile pigments and the water content of bile. |  |

**97. The most sensitive and specific test for the detection of gallstones in the bile duct IS:**

- a) Magnetic resonance cholangiopancreatography (MRCP).
- b) Endoscopic ultrasound (EUS). c) Ultrasound scan. d) CT scan.

**98. Bile acids are the end products of:**

- a) Cholesterol metabolism. c) Bile salts metabolism.
- b) Bilirubin metabolism. d) Lecithin metabolism.

**99. A 55-year-old female patient with a history of previous laparotomy for necrotizing pancreatitis and an open cholecystectomy presents with obstructive jaundice. Ultrasound confirms a dilated bile duct and a stone in the lower end of the bile duct. What is the best treatment option for this patient?**

- a) Open bile duct exploration. b) Laparoscopic bile duct exploration.
- c) Endoscopic retrograde cholangiopancreatography and stone extraction.
- d) Magnetic resonance cholangiopancreatography (MRCP) followed by endoscopic retrograde cholangiopancreatography if the stone is confirmed on MRCP.

**100. A 45-year-old male patient is investigated by his general practitioner for non-specific upper abdominal pain. An ultrasound scan shows a 0.5 cm single, non-mobile lesion in the gallbladder highly suggestive of a gallbladder polyp. The treatment of choice IS:**

- a) Reassurance. c) Laparoscopic cholecystectomy.
- b) Open cholecystectomy. d) Further imaging with CT scan.

**101. A 50-year-old female with a body mass index (BMI) of 42 and a history of hypertension and type II diabetes, presents with symptomatic gallstones. She is seen by a general surgeon who proposes laparoscopic cholecystectomy. However, she is quite keen to have both weight loss surgery and cholecystectomy at the same time. Which one of the following statements regarding her further management is correct?**

- a) She should just undergo laparoscopic cholecystectomy.
- b) She should undergo cholecystectomy followed by laparoscopic banding at a later date.
- c) She should be considered for laparoscopic banding and cholecystectomy at the same time.
- d) She should be considered for laparoscopic bypass followed by laparoscopic cholecystectomy at a later date.

**102. The gold standard diagnostic tool used for the diagnosis of extrahepatic biliary atresia IS:**

- a) Preoperative cholangiography. c) MRI of the liver.
- b) Hepatobiliary scintigraphy. d) Liver biopsy.

**103. A 17 -year-old female presents with upper abdominal pain, fever, jaundice and a palpable abdominal mass. The most likely diagnosis IS:**

- a) Gallstone with cholangitis. c) Mirizzi's syndrome.
- b) Acute cholecystitis. d) Choledochal cyst.

**104. The treatment of choice in a patient with type I, II and III choledochal cyst is:**

- a) Partial cyst excision.
- b) Cystoenterostomy.
- c) Further treatment is not required if the patient is not symptomatic.
- d) Complete excision of the cyst followed by Roux-en-Y- hepaticojejunostomy.

**105. All of the following are complications of choledochal cyst, EXCEPT:**

- a) Cholangitis.
- b) Cholangiocarcinoma.
- c) Obstructive jaundice.
- d) Pancreatic carcinoma.

**106. A 25-year-old female underwent a day case laparoscopic cholecystectomy for gallstones. She was discharged home on the same day. However, she is admitted the following day with severe abdominal pain. On examination, her pulse rate is 110/min and her temperature 38°C. Abdominal examination reveals tenderness in the right upper abdomen. Her white cell count is 13,000/mm<sup>3</sup> and liver function tests are normal. The most likely diagnosis is:**

- a) Bile leak.
- b) Acute pancreatitis.
- c) Common bile duct stone.
- d) Right lower lobe pneumonia.

**107. A 40-year-old female patient underwent laparoscopic cholecystectomy, which was complicated by hemorrhage that was managed appropriately during the laparoscopic procedure. 24 hours later she becomes acutely unwell with signs of localized right upper quadrant peritonitis. The most appropriate management of this includes:**

- a) Consider laparotomy.
- b) Urgent ultrasound of abdomen.
- c) Consider repeat laparoscopy and washout.
- d) Fluid resuscitation followed by ERCP.

**108. A 25-year-old female is readmitted with severe abdominal pain 24 hours following laparoscopic cholecystectomy. She is taken back to the operating theatre for a repeat laparoscopy. At laparoscopy, a large amount of bile is present in the right upper quadrant. The most common cause of bile leak following laparoscopic cholecystectomy is:**

- a) Bile duct injury.
- b) Cystic duct stump leak.
- c) Bile leak from the duct of Luschka.
- d) Perforated duodenum with a bile leak.

**109. A 30-year-old female is readmitted with acute abdominal pain 24 hours after laparoscopic cholecystectomy. On clinical examination she is jaundiced with a pulse rate of 100/min and temperature of 37.5°C. Abdominal examination reveals tenderness in the right upper quadrant. Her bilirubin is 80 mmol/L and alkaline phosphatase (ALP) 1618 IU/L. Ultrasound of the abdomen could not visualize the bile duct due to gas in the bowel. An urgent endoscopic retrograde cholangiopancreatography (ERCP) showed complete obstruction at the level of mid-common bile duct. Which one of the following is the best treatment option regarding further management of this case?**

- a) Early repair of the bile duct by a general surgeon.
- b) PTC and stenting followed by delayed repair of the bile duct.
- c) Late repair of the bile duct by a hepatobiliary and pancreatic surgeon.
- d) Early repair of the bile duct by a hepatobiliary and pancreatic surgeon.

**110. The predictors of a poor outcome following repair of the bile duct after bile duct injury ARE:**

- a) Involvement of biliary confluence.
- b) Repair by the injuring surgeon.
- c) Vascular injury.
- d) All of the above.

**111. The most common site of biliary tract cancer IS:**

- a) Gallbladder.
- b) Extrahepatic bile duct.
- c) Intrahepatic biliary tree.
- d) Confluence of biliary tree.

**112. The most common site of cholangiocarcinoma IS:**

- a) Hilum.
- b) Gallbladder.
- c) Intrahepatic.
- d) Distal bile duct.

**113. All of the following are risk factors for cholangiocarcinoma, EXCEPT:**

- a) Previous endoscopic sphincterotomy.
- b) Primary sclerosing cholangitis.
- c) Choledochal cyst.
- d) Gallstones.

**114. Which one of the following is not a risk factor for cholangiocarcinoma?**

- a) Ulcerative colitis.
- b) Choledochal cyst.
- c) Clonorchis sinensis.
- d) Chronic pancreatitis.

**115. Which of the following statements regarding the prognosis of cholangiocarcinoma is true?**

- a) Papillary type is associated with a poor prognosis.
- b) Papillary type is associated with a good prognosis.
- c) Sclerosing type is associated with an excellent prognosis.
- d) Nodular sclerosing type is associated with a good prognosis.

**116. Which of the following statements regarding the Management of cholangiocarcinoma is not correct?**

- a) It is often difficult to make a diagnosis based on biopsy results.
- b) It is essential to make a histological diagnosis before treatment.
- c) The diagnosis of cholangiocarcinoma is mainly based on radiological investigation.
- d) Distal cholangiocarcinomas have a better prognosis than hilar cholangiocarcinomas.

**117. Which of the following is the most likely diagnosis in a 70-year-old male patient with painless obstructive jaundice associated with significant weight loss and a palpable gallbladder?**

- a) Duodenal carcinoma.
- b) Hilar cholangiocarcinoma.
- c) Common bile duct (CBD) stones.
- d) Carcinoma of the head of the pancreas.

**118. In patients with suspected cholangiocarcinoma, the presence of lobar atrophy indicates:**

- a) An unresectable lesion.
- b) A locally advanced lesion.
- c) Involvement of the portal vein.
- d) All of the above.

**119. In patients with suspected resectable cholangiocarcinoma, percutaneous and endoscopic intervention should be avoided before surgery due to:**

- a) Risk of cholangitis.
- b) Risk of pancreatitis.
- c) Risk of hemorrhage.
- d) Risk of needle tract seeding following percutaneous intervention.

**120. All of the following criteria indicate an unresectable cholangiocarcinoma, EXCEPT:**

- a) Cirrhosis of the liver.
- b) Tumor involving the biliary confluence.
- c) Tumor extending into secondary radicals on both sides.
- d) Tumor involving the main portal vein proximal to its bifurcation.

**121. Which of the following statements regarding the treatment of hilar cholangiocarcinoma is incorrect?**

- a) Resection is the most effective therapy.
- b) Resection is associated with good prognosis.
- c) Caudate lobe resection is not associated with improved negative margins.
- d) Partial hepatectomy is almost always necessary to achieve a tumor-free margin.

**122. The independent predictors of long-term survival following surgery for hilar cholangiocarcinoma include all, EXCEPT:**

- a) R<sub>0</sub> resection.
- b) Concomitant liver resection.
- c) Poorly-differentiated histology.
- d) Papillary tumor type.

**123. A 55-year-old male patient was recently diagnosed with hilar cholangiocarcinoma with atrophy of the right lobe of the liver. He was also found to have main portal vein involvement. He is discussed in a multidisciplinary meeting and it is decided to palliate his jaundice. The best palliative procedure is:**

- a) Percutaneous drainage of the left ductal system.
- b) Percutaneous drainage of the right ductal system.
- c) Endoscopic drainage.
- d) Surgical bypass.

**124. The risk of gallbladder cancer is high in all of the following conditions, EXCEPT:**

- a) Porcelain gallbladder.
- b) Gallbladder polyp > 1 cm.
- c) Cholecystoenteric fistula.
- d) Previous endoscopic sphincterotomy.

**125. Cholecystectomy is indicated in all of the following conditions, EXCEPT:**

- a) Patients with a carcinoid tumor requiring small bowel resection.
- b) Patients with a gallbladder polyp > 1 cm in diameter.
- c) Patients with asymptomatic gallstones.
- d) Patients with a porcelain gallbladder.

**126. The indications for cholecystectomy in patients with asymptomatic gallstones include all, EXCEPT:**

- a) Patients with cirrhosis.
- b) Patients with type II diabetes.
- c) Patients with a porcelain gallbladder.
- d) Patients waiting for heart transplantation.

**127. A 50-year-old female patient of Asian origin was recently diagnosed with gallbladder cancer with the involvement of the hepatic flexure and the second part of the duodenum. The stage for this tumor is:**

- a) T<sub>1b</sub>.
- b) T<sub>2</sub>.
- c) T<sub>3</sub>.
- d) T<sub>4</sub>.



**128. The single best predictor of long-term outcome following surgery for gallbladder cancer IS:**

- a) Nodal status.
- b) Sex of the patient.
- c) Positive resection margin.
- d) Involvement of contiguous organs.

**129. The contraindications for surgical therapy in patients with gallbladder cancer include all of the following, EXCEPT:**

- a) Peritoneal disease.
- b) Contiguous liver involvement.
- c) The presence of celiac lymph nodes.
- d) Involvement of the common hepatic artery.

**130. A 45-year-old female underwent laparoscopic cholecystectomy for symptomatic gallstones. The subsequent histology shows gallbladder carcinoma involving the perimuscular connective tissue. This patient should be offered:**

- a) No further surgical treatment.
- b) Segment IV b and V resection.
- c) Adjuvant chemo-radiotherapy.
- d) Follow-up with regular CT scan.

**131. A 45-year-old female underwent laparoscopic cholecystectomy for chronic cholecystitis. Histology of the gallbladder shows the presence of carcinoma in situ. The treatment plan for this patient IS:**

- a) No further surgical treatment is necessary.
- b) Segment IV b and V resection.
- c) Adjuvant chemotherapy.
- d) Follow-up with regular CT scan.

**132. Which one of the following statements regarding the prognosis of acute pancreatitis is incorrect?**

- a) Obese patients have a worse prognosis.
- b) Worsening organ failure is associated with high mortality.
- c) Most patients who develop organ dysfunction have some evidence of organ failure at the time of admission.
- d) Patients with no evidence of organ failure in the first week will subsequently develop significant complications.

**133. The viral etiology of acute pancreatitis is suggested by the presence of which one of the following symptoms:**

- a) Vomiting.
- b) Constipation.
- c) Prodromal diarrhea.
- d) Severe epigastric pain radiating to the back.

**134. An increased immunoglobulin (Ig) G4/IgG ratio is helpful in the diagnosis of:**

- a) Tropical pancreatitis.
- b) Idiopathic pancreatitis.
- c) Autoimmune pancreatitis.
- d) Hereditary pancreatitis.

**135. All of the following procedures are associated with an increased risk of acute pancreatitis following endoscopic retrograde cholangiopancreatography, EXCEPT:**

- a) Needle sphincterotomy.
- b) Balloon dilatation of benign biliary strictures.
- c) Injection of contrast into the pancreatic duct.
- d) Endoscopic retrograde cholangiopancreatography and brush cytology.



**136. Which of the following statements regarding the management of patients with acute pancreatitis is NOT TRUE?**

- a) Enteral feeding is the best route of nutritional supplement.
- b) All patients with acute pancreatitis should receive prophylactic antibiotics.
- c) All patients with severe acute pancreatitis should be managed in a high dependency/intensive care unit.
- d) In patients with severe acute pancreatitis and jaundice there is a role for endoscopic retrograde cholangiopancreatography and sphincterotomy.

**137. The most likely diagnosis in a 50-year-old female patient with a recent history of pancreatitis and a large pseudocyst, presenting with sudden onset severe abdominal pain associated with tachycardia and hypotension IS:**

- a) Hemorrhage into the pseudocyst:
- b) Gram negative septicemia.
- c) Intraperitoneal rupture.
- d) Intra gastric rupture.

**138. The treatment of choice in a patient with hemorrhage into the pseudocyst secondary to pseudoaneurysm of the splenic artery IS:**

- a) Splenectomy.
- b) Ligation of the splenic artery.
- c) Conservative treatment with blood transfusion.
- d) Angiography and splenic artery embolization.

**139. The most likely cause of gastric varices in a patient with chronic alcoholic pancreatitis IS:**

- a) Portal hypertension secondary to cirrhosis of the liver.
- b) Non-cirrhotic portal fibrosis.
- c) Splenic vein thrombosis.
- d) Portal vein thrombosis.

**140. The most common cause of chronic pancreatitis IS:**

- a) Gallstones.
- b) Idiopathic.
- c) Alcohol.
- d) Tropical.

**141. The complications associated with chronic pancreatitis include all of the following, EXCEPT:**

- a) Obstructive jaundice.
- b) Cholangiocarcinoma.
- c) Splenic vein thrombosis.
- d) Gastric outlet obstruction.

**142. The indications for pylorus-preserving pancreaticoduodenectomy in patients with chronic pancreatitis include all of the following, EXCEPT:**

- a) Patients with an inflammatory mass in the head of the pancreas.
- b) Presence of features suggestive of underlying malignancy.
- c) Patients with a large stone in the pancreatic duct associated with pancreatic ductal dilatation.
- d) Patients with an inflammatory mass in the head of the pancreas and/causing biliary and duodenal obstruction.

**143. The most common type of pancreatic cancer is:**

- a) Acinar cell carcinoma.
- b) Squamous cell carcinoma.
- c) Pancreatic ductal carcinoma.
- d) Intraductal papillary mucinous neoplasm.

**144. All of the following are precursor lesions of pancreatic adenocarcinoma, EXCEPT:**

- a) Mucinous cystic neoplasm.
- b) Serous cystadenocarcinoma.
- c) Pancreatic intra-epithelial neoplasm.
- d) Intraductal papillary mucinous neoplasm.

**145. In what percentage of patients with painless obstructive jaundice is the gallbladder palpable?**

- a) >50%.
- b) >75%.
- c) <25%.
- d) In almost all patients.

**146. CA 19.9 can be elevated in all of the following conditions, EXCEPT:**

- a) Jaundice.
- b) Neuroendocrine tumors of the pancreas.
- c) Pancreatitis.
- d) Pancreatic adenocarcinoma.

**147. A 55-year-old male presents with painless obstructive jaundice. Abdominal examination is unremarkable. His alkaline phosphatase (ALP) is 708 U/L, bilirubin 250  $\mu$ mol/L. Ultrasound scan shows a common bile duct of 10 mm and pancreatic duct of 5 mm diameter. The most likely diagnosis is:**

- a) Distal common bile duct cholangiocarcinoma.
- b) Carcinoma of the body of the pancreas
- c) Ampullary carcinoma.
- d) Duodenal carcinoma.

**148. The initial diagnostic investigation of choice in patients with obstructive jaundice is:**

- a) CT scan
- b) Ultrasound.
- c) Endoscopic ultrasound (EUS).
- d) Magnetic resonance cholangiopancreatography (MRCP).

**149. The investigation of choice in the diagnosis and staging of pancreatic cancer is:**

- a) Magnetic resonance cholangiopancreatography (MRCP).
- b) Endoscopic ultrasound (EUS).
- c) Triple phase CT
- d) Non-contrast CT:

**150. Which one of the following features does not indicate high risk of malignancy in patients with suspected intraductal papillary mucinous neoplasm (IPMN)?**

- a) Tumor size >3 cm.
- b) Presence of mural nodules.
- c) Pancreatic duct diameter of >1 cm.
- d) Presence of mucin at the ampulla on endoscopic retrograde cholangiopancreatography.

**151. The most common site of intraductal papillary mucinous neoplasm (IPMN) is:**

- a) Ampulla.
- b) Tail of the pancreas.
- c) Body of the pancreas.
- d) Head of the pancreas.

**152. The hormone that is commonly elevated in pancreatic neuroendocrine tumors is:**

- a) Gastrin.
- b) C peptide.
- c) Chromogranin.
- d) 5-hydroxyindole acetic acid (HIAA).

**153. The most common site of gastrinoma is:**

- a) Stomach.
- b) Body of the pancreas.
- c) Third part of the duodenum.
- d) Second part of the duodenum.

**154. Which of the following statements regarding somatostatin scintigraphy is incorrect?**

- a) It provides functional images.
- b) It helps in deciding further treatment with somatostatin analogues.
- c) It provides a detailed anatomical analysis of neuroendocrine tumors.
- d) It is the most sensitive test for the diagnosis of pancreatic neuroendocrine tumors.

**155. The majority of insulinomas ARE:**

- a) Benign.
- b) Multiple.
- c) Malignant.
- d) More than 2 cm. in diameter.

**156. A 75-year-old male patient with bronchial asthma underwent CT of the chest and abdomen for further evaluation of recent onset cough. It showed a 2cm lesion in the body of the pancreas. Subsequent endoscopic ultrasound (EUS) and biopsy of the lesion shows features suggestive of a serous cystadenoma. The further management of this patient IS:**

- a) Regular follow-up with CT scan.
- b) No further treatment required.
- c) Distal pancreatectomy.
- d) Enucleation.

**157. The most commonly injured solid organ following blunt abdomen injury is the:**

- a) Liver.
- b) Spleen.
- c) Kidney.
- d) Pancreas.

**158. A 25-year-old male is brought to A&E by ambulance crew after being involved in a road traffic incident. On arrival he is conscious, oriented with a GCS of 15/15. He is complaining of severe right lower chest pain. His pulse rate is 100/min and BP 90/60 mmHg. Clinical examination reveals tenderness over the right lower chest. Urgent chest X-ray reveals fractures of the right 7th, 8th and 9th ribs. The initial management of this patient IS:**

- a) Diagnostic peritoneal lavage (DPL).
- b) Fluid resuscitation.
- c) Urgent CT scan.
- d) Laparotomy.

**159. The most frequently injured part of the biliary tree following blunt abdominal trauma is the:**

- a) Insertion of the cystic duct into the bile duct.
- b) Common bile duct.
- c) Gallbladder.
- d) Porta hepatis.

**160. A 45-year-old male travelling on a bicycle fell off after hitting a tree. He is brought to A&E and at the time of arrival he is complaining of severe epigastric pain. His observations were normal and stable. On abdominal examination there is tenderness in the epigastric region but is otherwise normal. All his blood tests were normal except serum amylase which is 1,500 IU/L. Subsequent CT abdomen shows peripancreatic edema and fluid in the lesser sac. The most likely diagnosis is:**

- a) Traumatic pancreatitis.
- b) Extrahepatic bile duct injury.
- c) Transection of the pancreas at the neck.
- d) Avulsion of the duodenum at the duodenojejunal flexure.

**161. The preferred treatment for a patient with traumatic main pancreatic ductal disruption at the neck of the pancreas is:**

- a) Distal pancreatectomy.
- b) Laparotomy and drainage.
- c) Pancreaticoduodenostomy.
- d) Endoscopic retrograde cholangiopancreatography and stenting.

**162. A 30-year-old male patient presents with generalized peritonitis following blunt abdominal trauma. At laparotomy there is free bile in the peritoneal cavity. On further exploration, the extrahepatic bile duct is disrupted approximately 2 cm above the first part of the duodenum. There is no other intra-abdominal injury. The bile duct should be repaired with:**

- a) End-to-end anastomosis over a T-tube.
- b) Roux-en-Y hepaticojejunostomy.
- c) Refashioning of the edges and end-to-end anastomosis.
- d) Refashioning of the edges and end-to-end anastomosis with a T-tube brought through the normal part of the bile duct.

**163. The levels of which one of the following proliferative markers is used in the classification of pancreatic neuroendocrine tumors:**

- a) Ki-67.
- b) PCNA.
- c) VEGF.
- d) S-phase fraction.

**164. The following insulin to glucose ratio is consistent with the diagnosis of insulinoma:**

- a) >0.1.
- b) >0.2.
- c) >0.4.
- d) >0.6.

**165. The following drug is used in the medical treatment of insulinoma:**

- a) Diazoxide.
- b) Metformin.
- c) Ranitidine.
- d) Minoxidil.

**166. Which one of the following statements regarding insulinoma is incorrect?**

- a) Surgery is the best treatment option.
- b) Most of the insulinomas are benign and solitary.
- c) The most common site is the head of the pancreas.
- d) 95 % of insulinomas can be localized through surgical exploration and intraoperative ultrasound.

**167. The most common functioning malignant endocrine tumor is:**

- a) Insulinoma.
- b) Somatostatin.
- c) Gastrinoma.
- d) Glucagonoma.

**168. The most common pancreatic endocrine tumor associated with MEN-I syndrome IS:**

- a) Insulinoma.
- b) Gastrinoma.
- c) Nesidioblastosis.
- d) Glucagonoma.

**169. The majority of neuroendocrine tumors of the pancreas ARE:**

- a) Insulinomas.
- b) Gastrinomas.
- c) Somatostatinomas.
- d) Non-functioning tumors.

**170. The most common cystic tumor of the pancreas IS:**

- a) Serous cystadenoma.
- b) Mucinous cystadenoma.
- c) Serous cystadenocarcinoma.
- d) Intraductal papillary mucinous neoplasm.

**171. A 65-year-old male recently diagnosed with diabetes presents with upper abdominal pain for the last 3 weeks. Abdominal examination is unremarkable. All biochemical and hematological tests were normal. CT scan of the abdomen shows dilation of the main pancreatic duct with a 2 cm lesion in the head of the pancreas, connected to the main pancreatic duct. Endoscopic retrograde cholangiopancreatography (ERCP) shows patulous ampulla with mucin secretion. The most probable diagnosis IS:**

- a) Serous cystadenoma.
- b) Mucinous cystadenoma.
- c) Mucinous cystadenocarcinoma.
- d) Intraductal papillary mucinous neoplasm.

**172. Which one of the following cancers is associated with a best prognosis?**

- a) Ductal carcinoma of the pancreas.
- b) Distal cholangiocarcinoma.
- c) Ampullary carcinoma.
- d) Duodenal carcinoma.

**173. The most common histological type of gallbladder cancer IS:**

- a) Adenocarcinoma.
- b) Small cell carcinoma.
- c) Squamous cell carcinoma.
- d) Adenosquamous carcinoma.

**174. Which one of the following conditions is associated with a high risk of gallbladder malignancy?**

- a) Porcelain gallbladder.
- b) Inflammatory bowel disease.
- c) Familial adenomatous polyposis.
- d) Anomalous junction of the pancreatic biliary duct.

**175. A 45-year-old female patient with recurrent epigastric pain is found on ultrasound of the abdomen to have a 1 cm non-mobile lesion suggestive of a polyp. A subsequent CT scan confirmed a 1 cm lesion with no signs of malignancy. This patient should be offered:**

- a) Reassurance.
- b) Open cholecystectomy.
- c) Laparoscopic cholecystectomy.
- d) 6-monthly ultrasound of the abdomen.

**176. The further treatment of choice in a 58-year-old female with a type 1 b adenocarcinoma of the gallbladder diagnosed following laparoscopic cholecystectomy IS:**

- a) Radiotherapy.
- b) Chemotherapy.
- c) No further treatment.
- d) Segment IV b and V resection along with lymph node clearance.

**177. The major constituent of bile is:**

- a) Water.                      b) Bile salts.                      c) Cholesterol.                      d) Bile pigments.

**178. The concentration of which one of the following substances is twice the normal plasma level in pancreatic secretions?**

- a) Sodium.                      b) Chloride.                      c) Potassium.                      d) Bicarbonate.

**179. Secretin stimulates pancreatic secretion rich in:**

- a) Lipid digestive enzymes.                      c) Protein digestive enzymes.  
b) Bicarbonate and water.                      d) Carbohydrate digestive enzymes.

**180. Cholecystokinin stimulates pancreatic secretion rich in:**

- a) Water.                      c) Digestive enzymes.  
b) Bicarbonate.                      d) All of the above.

**181. Which of the following infections increases the risk of hepatocellular carcinoma (HCC)?**

- a) Hepatitis C virus (HCV).                      b) Hepatitis B virus (HBV).  
c) Combined HCV and HBV.  
d) Combined HBV and Hepatitis D virus (HDV).

**182. Which of the following statements regarding the risk of hepatocellular carcinoma (HCC) in patients with hepatitis C infection is INCORRECT?**

- a) The annual risk of HCC is 1-4%.  
b) HCV is the most common risk factor for HCC in Asia.  
c) It is not mandatory to have established cirrhosis to develop HCC.  
d) The risk of HCC significantly reduces in patients who respond to antiviral treatment.

**183. On Doppler study of the liver, which of the following patterns of blood flow indicates hepatic arterial flow?**

- a) Continuous flow.  
b) Pulsatile pattern with reverse flow in systole.  
c) Pulsatile pattern with forward flow.  
d) Continuous flow with changes during the respiratory movement.

**184. A high level of which one of the following tumor markers from pancreatic cyst aspirate predicts that the lesion is most likely to be a mucinous cystadenoma?**

- a) Carcinoembryonic antigen (CEA)                      c) Amylase  
b) CA-19.9.                      d) CA-125.

**185. Which of the following is not a risk factor for carcinoma of the gallbladder?**

- a) Typhoid carriers.                      c) Oral contraceptives.  
b) Choledochal cysts.                      d) Adenomatous gallbladder polyps.

**186. The contraindications for medical treatment of gallstones include all of the following, EXCEPT:**

- a) Stones less than 15 mm in size.                      c) Calcium bilirubinate and oxalate stones.  
b) Radio-opaque stones.                      d) Non-functioning gallbladder.

**187. Bile ductopenia is seen in:**

- a) Graft versus host disease.
- b) Autoimmune hepatitis.
- c) Alcoholic hepatitis.
- d) Cirrhosis.

**188. Which of the following statements regarding fibrolamellar carcinoma of the liver is incorrect?**

- a) It is more common in females.
- b) It tends to occur in younger individuals.
- c) It has a better prognosis than hepatocellular carcinoma.
- d) In affected patients, serum AFP levels are usually  $>1,000 \mu\text{g/L}$ .

**189. The most abundant bile acid in the bile is:**

- a) Cholic acid.
- b) Lithocholic acid.
- c) Deoxycholic acid.
- d) Chenodeoxycholic acid.

**190. The functions of bile acid include:**

- a) Emulsification of intestinal dietary proteins.
- b) Facilitation of excretion of cholesterol in stool.
- c) Facilitation of intestinal absorption of water soluble vitamins.
- d) All of the above.

**191. Bile acids are actively re-absorbed in which part of the gastrointestinal tract?**

- a) Jejunum.
- b) Sigmoid colon.
- c) Terminal ileum.
- d) Transverse colon.

**192. Which of the following statements regarding biliary sludge is INCORRECT?**

- a) Prolonged fasting is a predisposing factor.
- b) It can cause biliary colic, cholecystitis and pancreatitis.
- c) It does not resolve after stopping total parenteral nutrition.
- d) It is composed of cholesterol monohydrate crystals, lecithin-cholesterol crystals, and calcium bilirubinate.

**193. The risk factors for gallstone formation include all of the following, EXCEPT:**

- a) Diabetes.
- b) Pregnancy.
- c) Rapid weight loss.
- d) Total parenteral nutrition.

**194. Which one of the following antibiotics is associated with the formation of gallstones?**

- a) Cephalexin.
- b) Cefuroxime.
- c) Ceftriaxone.
- d) Cefoperazone.

**195. The most common symptom of primary biliary cirrhosis is:**

- a) Pruritis.
- b) Jaundice.
- c) Bleeding.
- d) Abdominal pain.

**196. The triad of hemobilia includes all of the following clinical signs, EXCEPT:**

- a) Pain.
- b) Fever.
- c) Jaundice.
- d) Gastrointestinal bleeding.

**197. Which of the following is the preferred treatment modality for annular pancreas causing duodenal obstruction?**

- a) Duodenojejunostomy.
- b) Whipple's operation.
- c) Gastrojejunostomy.
- d) Jejunocystostomy.



**198. The most common complication of pancreatic pseudocysts is:**

- a) Rupture.
- b) Infection.
- c) Hemorrhage.
- d) Pressure on the viscera.

**199. All of the following are characteristics of idiopathic thrombocytopenic purpura (ITP) EXCEPT:**

- a) Splenomegaly.
- b) Female predominance.
- c) Petechiae, ecchymosis and bleeding.
- d) Increased megakaryocytes in the bone marrow.

**200. Spontaneous rupture of the spleen occurs most commonly in patients with:**

- a) Typhoid.
- b) Hereditary spherocytosis.
- c) Chronic myeloid leukaemia.
- d) Infectious mononucleosis.

**201. The most common site of an accessory spleen is:**

- a) Splenic hilum.
- b) Greater omentum.
- c) Lienorenal ligament.
- d) Gastro-splenic ligament.

**202. Which one of the following characteristics is seen in the peripheral blood smear of a patient who underwent splenectomy a long time ago?**

- a) Spherocytes.
- b) Döhle bodies.
- c) Howell-Jolly bodies.
- d) Hypersegmented neutrophils.

**203. Which of the following laboratory determinants is abnormally prolonged in idiopathic thrombocytopenic purpura (ITP)?**

- a) Activated partial thromboplastin time (APTT).
- b) Prothrombin time.
- c) Bleeding time.
- d) Clotting time.

**204. Splenectomy is most useful in the treatment of:**

- a) Henoch-Schönlein (HS) purpura.
- b) Thrombotic thrombocytopenia.
- c) Hereditary spherocytosis.
- d) Sickle cell anemia.

**205. Splenectomy is associated with a rapid increase in the count of:**

- a) Platelets.
- b) Monocytes.
- c) Neutrophils.
- d) Lymphocytes.

**206. During liver resection, where is the most common site of life-threatening hemorrhage?**

- a) Main hepatic arteries
- b) Portal vein branches
- c) Intrahepatic vena cava
- d) Hepatic vein branches

**207. What is the difference between a standard right hepatectomy and extended right hepatectomy?**

- a) Extended includes left lobe segments III and IV
- b) Extended includes the middle hepatic vein and its parenchymal counterparts
- c) Extended includes segment IV and includes the middle hepatic vein
- d) Extended includes everything until the line transecting the gallbladder and inferior vena cava (IVC)



**208. Which of the following features is characteristic of Zollinger Ellison syndrome but not of Verner-Morrison syndrome?**

- a) Diarrhea
- b) Hypercalcemia
- c) Hypocalcemia
- d) Increased gastric acid secretion

**209. Which of the following is not a feature of the clinical syndrome associated with a glucagon-producing islet cell tumor?**

- a) Rash
- b) Diabetes
- c) Seizures
- d) Glossitis

**210. The mechanism of alcohol-induced acute pancreatitis is thought to involve all of the following except:**

- a) Pancreatic ductal obstruction
- b) Pancreatic exocrine hypersecretion
- c) Hypertriglyceridemia
- d) Genetic defect in lysosomal membranes

**211. The uncinate process of the pancreas is directly adjacent and ventral to:**

- a) Splenic vein
- b) Inferior vena cava
- c) Superior mesenteric artery
- d) Left renal vein

**212. What is the leading cause of death from acute pancreatitis?**

- a) Hemorrhage
- b) Pseudocyst rupture
- c) Secondary pancreatic infection
- d) Biliary sepsis

**213. Which of the following is the preferred nutritional support for a patient with severe pancreatitis?**

- a) Nasogastric feeding
- b) Feeding via percutaneous endoscopic gastrostomy
- c) Nasojejunal feeding
- d) Parenteral amino acids and glucose

**214. Which of the following is the most important determinant of the need for drainage of a pancreatic pseudocyst?**

- a) Pseudocyst symptoms
- b) Pseudocyst size
- c) Pseudocyst duration
- d) Associated chronic pancreatitis

**215. Which of the following statements is true regarding acute pancreatitis?**

- a) Twenty-five percent of patients with the diagnosis of idiopathic acute pancreatitis (IAP) will have a recurrence in their lifetime.
- b) The diagnosis of IAP is made in up to 30% of cases of acute pancreatitis.
- c) Pancreatic divisum is the most common congenital abnormality of the pancreas occurring in 15% of the general population and is a potential contributor to IAP.
- d) Patients with CF have a 10%–15% incidence of pancreatitis during their lifetime, secondary to their disease.

**216. Which of the following familial genetic syndromes is not associated with pancreatic cancer?**

- a) Familial atypical multiple mole melanoma syndrome (FAMMM)
- b) Familial adenomatous polyposis (FAP)
- c) Hereditary nonpolyposis colorectal cancer (HNPCC)
- d) Autosomal dominant polycystic kidney disease (ADPKD)

❖ *Select and match the most appropriate diagnosis for each patient. Each lettered option may be used once, more than once, or not at all.*

217.A 62-year-old man presents with right upper quadrant abdominal pain and jaundice. He is afebrile with normal vital signs. On laboratory findings he has elevated levels of bilirubin and alkaline phosphatase. Ultrasound demonstrates gallstones, normal gallbladder wall thickness, no pericholecystic fluid, and a common bile duct of 1.0 cm. **D**

218.A 36-year-old woman presents with right upper quadrant abdominal pain and jaundice. She is febrile and tachycardiac. On laboratory results she has leukocytosis and elevated levels of bilirubin and alkaline phosphatase. Ultrasound demonstrates gallstones, normal gallbladder wall thickness, no pericholecystic fluid, and a common bile duct of 1.0 cm. **E**

219.A 55-year-old man presents with intermittent right upper quadrant abdominal pain. Each episode of pain lasts 1 to 2 hours. He is afebrile with normal vital signs. On laboratory results he has no leukocytosis and normal levels of bilirubin, alkaline phosphatase, amylase, and lipase. Ultrasound demonstrates gallstones, normal gallbladder wall thickness, no pericholecystic fluid, and a common bile duct of 3 mm. **A**

220.A 23-year-old woman presents with epigastric abdominal pain and nausea. She is afebrile with normal vital signs. On laboratory results she has no leukocytosis with normal levels of bilirubin and alkaline phosphatase. The amylase and lipase are elevated. Ultrasound demonstrates gallstones, normal gallbladder wall thickness, no pericholecystic fluid, and a common bile duct of 3 mm. **C**

- a) Symptomatic cholelithiasis
- b) Acute cholecystitis
- c) Gallstone pancreatitis
- d) Choledocholithiasis
- e) Cholangitis

❖ *Choose and match the correct gallstone type with each of the descriptions given below:*

- a) Mixed stones
- b) Cholesterol stones
- c) Black pigment stones
- d) Brown pigment stones

**221. They are usually solitary and pale and ovoid in appearance. Obesity, high-calorie diets and certain medications increase the risk of these stones. B**

**222. Bile stasis and infected bile predispose to these stones. This stone formation is related to deconjugation of bilirubin diglucuronide by bacteria. These are also associated with the presence of foreign bodies such as endoprosthesis or parasites. D**

**223. These are the commonest variety and are usually multiple and faceted. They have a crystalline structure on cross-section. A**

**224. These are usually amorphous and contain an insoluble bilirubin polymer. They are associated with haemolytic conditions such as sickle cell anaemia and hereditary spherocytosis. C**

## Chapter IV: UROSURGERY

### Renal trauma

1. **Complications of rupture kidney include:**
  - a) Shock.
  - b) Pseudohydronephrosis.
  - c) Renal failure if solitary kidney.
  - d) All of the above.
2. **Conservative treatment of rupture kidney is indicated in:**
  - a) Complete tear.
  - b) Deep tear.
  - c) Intraperitoneal rupture with minimal shock.
  - d) Retroperitoneal rupture with minimal shock.
3. **All of the following are true, except,**
  - a) Hematuria following trivial injury of the kidney indicates a previously pathological kidney.
  - b) In closed renal injury, surgical exploration is necessary in the majority.
  - c) IVU or CT with contrast should be performed urgently in suspected renal injury.
  - d) HTN may be a long term complication of renal injury.
4. **A 42-year-old woman involved in a traffic accident presents to the emergency room complaining of flank pain and gross hematuria, she is hemodynamically stable. The next step in management is:**
  - a) Exploratory laparotomy
  - b) Open lavage and, if positive, immediate laparotomy
  - c) Immobilization of the pelvis
  - d) Computed axial tomography (CAT) scan with the use of intravenous contrast
5. **Renal injury:**
  - a) Is usually common due to the strong rib cage and strong back muscles.
  - b) Penetrating injury is more common than blunt injury.
  - c) Absence of hematuria doesn't exclude renal injury.
  - d) IVP is the investigation of choice for staging of injury.

### Bladder injuries

6. **In intraperitoneal rupture of the bladder, it is untrue that it:**
  - a) Occurs only when the bladder is overdistended.
  - b) May be due to external trauma or intravesical instrumentation.
  - c) Is particularly common in females.
  - d) May cause peritonitis with shifting dullness.
7. **Which of the following is false about urinary bladder trauma?**
  - a) Extraperitoneal rupture is more common than intraperitoneal rupture.
  - b) Extraperitoneal rupture mimics rupture of membranous urethra.
  - c) CT scan is the investigation of choice.
  - d) Laparotomy is required in all cases of UB rupture.

**8. Urinary tract injuries:**

- a) Can be excluded by absence of microscopic hematuria.
- b) When suspected will require urgent intravenous urography.
- c) If involving the kidney will need urgent surgery in most cases.
- d) When due to bladder rupture with extravasation of urine is usually managed conservatively by insertion of a Foley's catheter.

**9. Regarding bladder trauma, which of the following statements is true?**

- a) rupture is usually extraperitoneal when associated with pelvic fracture
- b) a single view retrograde cystogram in the emergency department demonstrates most significant bladder injuries
- c) primary closure is generally indicated for extraperitoneal ruptures
- d) intraoperative injury usually requires repair with a suprapubic cystostomy

**Urethral injuries****10. About rupture urethra:**

- a) Commonly is prostatic urethra.
- b) Causes bleeding per rectum.
- c) Fracture of pubic and ischial rami causes rupture membranous urethra.
- d) The 1st step of treatment is usually urethral catheterization.

**11. Following a fall astride a beam, a young male felt sharp pain in the perineum with bleeding from the meatus and inability to pass urine. Examination revealed a distended bladder and a perineal hematoma. The diagnosis proved to be:**

- a) Intrapelvic rupture of urethra.
- b) Extrapelvic rupture of urethra.
- c) Perineal hematoma.
- d) Intraperitoneal rupture of bladder.

**12. Which of the following is false about rupture of membranous urethra?**

- a) It is most always associated with a pelvic fracture.
- b) 10-15% of fracture pelvis cases are associated urethral injury.
- c) It is usually a part of multiple trauma.
- d) A urethral catheter is inserted as a part of initial examination.

**13. A patient with a complete anterior urethral injury after a high speed motor vehicle accident is best initially managed by:**

- a) Placement of a Foley catheter for 8-10 days
- b) Placement of a Foley catheter for 1 month
- c) Placement of a suprapubic catheter
- d) Immediate repair.

**14. The best procedure to diagnose injury of the urethra is:**

- a) IV pyelography.
- b) Passage of a urethral catheter.
- c) Ascending urethrography.
- d) Micturation cysto-urethrography.

**15. The triad of signs of rupture urethra includes the following, except:**

- a) Perineal hematoma
- b) Bleeding per urethra
- c) Retention of urine
- d) Bleeding per rectum

**16. A boy involved in road traffic accident with fracture pelvis and is unable to pass urine, lesion in:**

- a) Intraperitoneal part of the bladder
- b) Penile urethra
- c) Bulbar urethra
- d) Prostatic urethra

## Ureteric injuries

**17. Injuries to the distal ureter should be treated with:**

- a) Primary repair
- b) End-to-end anastomosis after spatulation.
- c) Uretero-ureterostomy (to the contralateral ureter)
- d) Ureteral re-implantation.

**18. Injury of the ureter is least likely to occur during one of the following operations:**

- a) Abdomino-perineal resection of rectal cancer.
- b) Small intestinal resection.
- c) Total hysterectomy.
- d) Left hemicolectomy.

**19. Which of the following statements false?**

- a) Most ureteric injuries are due to surgical trauma during pelvic surgery.
- b) Preoperative ureteric catheterization helps to protect them from injury during operation.
- c) When recognized during operation, an injured ureter should be repaired immediately.
- d) When ureteric injury is diagnosed postoperatively, delayed repair is undertaken.

## Inflammatory disease

**20. As regards types of pyonephrosis all are correct, except:**

- a) In primary type the kidney may be hugely enlarged.
- b) 2ry type is due to superimposed infection and chronic obstruction.
- c) Closed pyonephrosis is an emergency condition.
- d) Urine analysis may be -ve in closed type.

**21. All of the following findings give sure diagnosis of renal TB except:**

- a) Acid fast, alcohol fast bacilli on ZN stain.
- b) Sterile pyuria.
- c) +ve culture on Lowenstein medium.
- d) +ve culture on Bactec medium.

**22. All of the following lesions in bilharzias is are precancerous except:**

- a) Cystitis cystica.
- b) Leukoplakia.
- c) Cystitis glandularis.
- d) Sandy patches.

**23. Disease of urinary bladder cause:**

- a) Initial haematuria.
- b) Terminal haematuria.
- c) Total haematuria.
- d) Cannot cause hematuria.

**24. The following statements about pyonephrosis are correct except that it**

- a) Is a chronic retention of infected urine in the kidney
- b) Usually results from coincident infection and obstruction as in renal calculi and pyelonephritis
- c) Is characterized by dilatation of the pelvicalyceal system with extensive excavation of the parenchyma
- d) Is best treated by primary nephrectomy

**25. Concerning pyelonephritis, the following statements are true except that it:**

- a) Is always due to ascending infection.
- b) May be unilateral or bilateral.
- c) Causes enlargement of the kidney with dilatation of the pelvicalyceal system and multiple abscesses in the parenchyma.
- d) Has an acute onset with pain, tenderness and rigidity in the loin.

**26. The incorrect statement about bilharzial cystitis is that it:**

- a) Is the commonest cause of hematuria in Egypt.
- b) Predisposes to secondary infection and stone formation.
- c) Rarely causes bladder neck obstruction.
- d) May produce calcified-shadows in the plain X-ray.

**27. Which of the following is true?**

- a) Sterile pyuria should alert one to the possibility of renal TB.
- b) Chronic pyelonephritis is usually associated with vesica-ureteric reflux.
- c) Pyonephrosis is an infected hydronephrosis and is most commonly due to a stone causing obstruction.
- d) All of the above.

**28. Non-gonococcal urethritis is best treated by:**

- a) Tetracycline.
- b) Metronidazole.
- c) Quinolones.
- d) Penicillin.

**29. Urine is said to be infected when culture yields organisms in excess of:**

- a)  $10^3/\text{m}$
- b)  $10^5/\text{m}$
- c)  $10^7/\text{m}$
- d)  $10^9/\text{m}$

**30. Predisposing factors for recurrent urinary tract infection include:**

- a) Bladder calculus / cancer
- b) Incomplete emptying of the bladder
- c) Vesicoureteric reflux
- d) All of the above.

**31. About urinary bilharzias is:**

- a) Most common organism is *Schistosoma mansoni*.
- b) May lead to transitional cell carcinoma.
- c) Characteristic sandy patches on macroscopic exam.
- d) Nonspecific histopathological pattern may be seen.

## Stones

**32. The following are common sites of impaction of ureteric stone:**

- a) Pelvi-ureteric junction.
- b) Crossing of iliac arteries.
- c) Crossing of broad ligaments in females or vas in males.
- d) All of the above.

**33. The following type of stone is radiolucent in (KUB) films:**

- a) Calcium stones.
- b) Urate stones.
- c) Cysteine stones.
- d) Oxalate stones.

**34. All of the following are predisposing factors to Ca oxalate stone except:**

- a) Hyperparathyroidism.
- b) Increase consumption of mango, tomato and milk.
- c) Bone secondaries.
- d) Giant tumor lysis.

**35. The most symptomatic stone is:**

- a) Oxalate.                      b) Phosphate.                      c) Urate.                      d) Cysteine.

**36. DD of ureteric stone (opacity) in x-ray film include:**

- a) Gall bladder stone on right side.                      c) Calcified LN.  
b) Phlibolith.                      d) All of the above.

**37. A ureteric stone needs surgical removal when:**

- a) Enlarging                      b) Obstructing                      c) Too large to pass                      d) All of the above

**38. A male farmer aged 30 years presented with dysuria, frequency and pain in the suprapubic region, perineum and tip of the penis. His symptoms were more marked by day than by night and were aggravated by riding his donkey. He should be suspected to have:**

- a) Bilharzial cystitis.                      c) Chronic prostatitis.  
b) Tuberculosis of bladder.                      d) Vesical calculus.

**39. It is untrue that urethral calculus**

- a) Is usually migrating from the upper urinary tract.  
b) May be impacted in any part of the urethra.  
c) Causes acute retention of the urine.  
d) May be palpable through the floor of the urethra.

**40. A 45-year-old male presented with recurrent multiple renal calculi, normal left kidney and lower urinary tract. He is best treated by:**

- a) Nephrectomy.                      b) Nephrolithotomy.                      c) Pyelolithotomy.  
d) Extracorporeal shock wave lithotripsy (ESWL).

**41. All of the following are true about urinary stones except,**

- a) The common bacteria acting as a nidus for stones are staphylococci and E.coli.  
b) If a parathyroid adenoma is found to be the cause of renal calculi, it should be removed before the treatment of the calculus.  
c) Pure uric acid stones are radio-opaque.  
d) A staghorn calculus is composed of calcium-ammonium-magnesium phosphate.

**42. What characteristic of struviate (ammonium magnesium phosphate) stones makes antibiotics ineffective when treatment is being performed?**

- a) Resistant bacteria                      c) Ineffective antibiotics  
b) Poor excretion of antibiotics                      d) Bacteria inaccessible to antibiotics

**43. Regarding urinary stones, the untrue statement is:**

- a) They are usually radiolucent.                      b) Are most commonly calcium oxalate stones.  
c) If they are phosphate stones, give rise to stag horn calculus.  
d) May cause hydronephrosis.

**44. Regarding ureteric calculi all are true except:**

- a) Are most often composed of calcium oxalate or phosphate.  
b) The majority of stones less than 5 mm in diameter pass spontaneously.  
c) Extracorporeal lithotripsy is useful for stones in the upper third of the ureter.  
d) About 30% of patients require open surgery to remove the stone.



- 45. A 50-year-old woman is being evaluated for right flank pain she has a history of calcium oxalate renal calculi. An IVP shows a 1-cm none obstructing stone in the right renal pelvis. The treatment of choice is:**
- a) Open surgical removal
  - b) Dissolution therapy
  - c) Percutaneous nephrolithotomy
  - d) ESWL
- 46. Regarding extracorporeal shockwave lithotripsy (ESWL) all are true EXCEPT:**
- a) It is completely non-invasive.
  - b) The most common complication is urethral obstruction secondary to stone fragments.
  - c) Can be used in pregnant female.
  - d) The combination of ESWL with percutaneous lithotripsy improves the results for stone clearance in patients with large staghorn calculi.
- 47. The following calculi are formed in infected urine:**
- a) Calcium oxalate stones.
  - b) Cystine stones.
  - c) Triple phosphate stones.
  - d) Pigment stones.
- 48. Stag horn calculus is composed of:**
- a) Triple phosphate
  - b) Calcium ammonium oxalate
  - c) Calcium oxalate,
  - d) All of the above.
- 49. Strangury means:**
- a) The same as tenesmus.
  - b) An intense desire to pass urine
  - c) The desire to micturate remains unopposed after micturition and painful straining occurs
  - d) Pain on micturation.
- 50. A 40 yrs old patient has a 3 day history of left ureteric colic. He is tachycardiac, temp. 38.5°C, with an increased white cell count. Imaging reveals a 9 mm mid-ureteric calculus with marked left-sided hydronephrosis. The proper treatment is:**
- a) percutaneous nephrolithotomy
  - b) conservative management
  - c) insertion of a ureteric stent
  - d) extracorporeal shock-wave lithotripsy
- 51. 40-year-old woman is found to have a stag horn calculus in a non-functioning kidney. Most appropriate management is:**
- a) Percutaneous nephrolithotomy (PCNL)
  - b) Nephrectomy
  - c) Extracorporeal shock wave lithotripsy (ESWL)
  - d) Percutaneous nephrostomy
- 52. A 29-year-old PhD student presents with acute-onset colicky left loin pain and describes a history suggestive of urinary calculi. Which one of the following would be the initial investigation of choice to determine the presence of a calculus in the renal tract?**
- a) Dimercaptosuccinic acid (DMSA) scan
  - b) KUB (kidney ureter bladder) radiograph
  - c) Intravenous urogram/pyelogram
  - d) Flexible cystoscopy

**53. Presentations of urinary stones may be the following except:**

- a) Renal pelvic stone -7 pain restricted to loin.
- b) Upper ureter stone has no radiating pain.
- c) Bladder neck stone -7 pain radiating to neck of penis.
- d) Urinary stone may be asymptomatic especially triphosphate stone.

**54. Conservative treatment of urinary stone include:**

- a) Ample fluid intake.
- b) Acidification of urine.
- c) Analgesics.
- d) All of the above.

**55. The only contraindication to percutaneous nephrolithotomy (PCN) is:**

- a) Poor general condition.
- b) Multiple calyceal calculi.
- c) Clotting disorders.
- d) Staghorn stones.

**56. Uric acid stones:**

- a) Can be treated by Alkalinization.
- b) Are radiolucent.
- c) Occur after chemotherapy in patients with leukemia or lymphoma.
- d) All of the above.

❖ *For each of the clinical scenarios described below, select the single most likely method of management from the options listed above. Each option may be used once, more than once or not at all. Q (58-60)*

**57. A 34-year-old woman presents with acute renal colic. Intravenous urogram (IVU) reveals a 0.8 mm diameter stone causing obstruction just below the right pelvi-ureteric junction of her urinary tract.**

- a) Conservative treatment (watch and wait)
- b) Percutaneous nephrolithotomy (PCNL) alone.
- c) Extracorporeal shock wave lithotripsy (ESWL) alone.
- d) 'Push-bang' treatment.

**58. A 38-year-old man presents with acute renal colic. IVU reveals a 0.3 cm diameter stone midway along his left ureter with no obstruction.**

- a) Conservative treatment (watch and wait)
- b) Percutaneous nephrolithotomy (PCNL) alone.
- c) Extracorporeal shock wave lithotripsy (ESWL) alone.
- d) Percutaneous nephrostomy.

**59. A 29-year-old woman presents with acute renal colic. IVU reveals a 0.5 cm stone in the upper third obstructing her right ureter. She develops a fever after a few hours, and the pain becomes continuous. A subsequent IVU demonstrates that the contrast medium is not draining past the stone.**

- a) Conservative treatment (watch and wait)
- b) Percutaneous nephrolithotomy (PCNL) alone.
- c) Extracorporeal shock wave lithotripsy (ESWL) alone.
- d) Percutaneous nephrostomy.

**60. Regarding urinary stones all are true except:**

- a) Urate stones are translucent.
- b) Oxalate stone is spiky.
- c) Triple phosphate stones consist of magnesium, calcium and sodium.
- d) None of the above.

### Obstructive uropathy

**61. The main aim in emergency treatment of anuria is to do the following except:**

- a) Relieve obstruction.
- b) Prevent infection.
- c) Relieve pain.
- d) Detect type of stone and remove it.

**62. A 49-year old man had hemorrhoidectomy. After recovery from anesthesia he complains of painful inability to pass urine. The first step is:**

- a) Administration of alpha 1 reductase inhibitor.
- b) Administration of parenteral analgesia.
- c) Evacuation of the urinary bladder with a catheter then removal of the catheter.
- d) Placement of a self-retaining catheter and investigation of the possible cause.

**63. Calcular Anuria:**

- a) Urine output is <200 ml/24 hrs.
- b) Drainage of obstruction is the 1st line of treatment.
- c) Bladder is usually empty.
- d) All of the above.

**64. The best operation for pelvic hydronephrosis due to stricture of the pelvi-ureteric junction is:**

- a) Excision of the stricture.
- b) Anderson-Haynes's operation.
- c) Nephrostomy.
- d) Partial nephrectomy.

**65. Complications of urethral stricture include:**

- a) Retention of urine.
- b) Urethral-fistula
- c) Periurethral abscess.
- d) All of the above

**66. Which of the following statements about urethral stricture is false?**

- a) The symptoms are those of bladder outflow obstruction (BOO)
- b) Ascending urethrography is necessary.
- c) Urethroscopy is mandatory to evaluate.
- d) Urethral dilatation is the ideal treatment.

### Urological tumors

**67. All of the following are presentations of BPH:**

- a) Asymptomatic.
- b) Chronic retention.
- c) Hematuria.
- d) All of the above.

**68. As regards Prostatectomy all are correct except:**

- a) Best way for benign condition is TURP.
- b) Is indicated in all cases with BPH.
- c) Radical prostatectomy is indicated in locally active adenocarcinoma.
- d) Local latent adenocarcinoma → follow up.

**69. Risk factors of transitional cell carcinoma include all of the following except:**

- a) Smoking.
- b) Cyclophosphamide.
- c) Pelvic irradiation.
- d) Exposure to schistosomiasis.

**70. All of the following primary sites metastasize classically with osteolytic lesion except:**

- a) Kidney.
- b) Prostate.
- c) Bladder.
- d) Breast.

**71. As regard ORE BPH differs from cancer prostate in that:**

- a) Cancer prostate feel hard and irregular.
- b) BPH feels smooth, firm and elastic.
- c) In BPH rectal mucosa is freely mobile.
- d) All of the above.

**72. Diagnosis of urinary bladder carcinoma:**

- a) The most effective diagnostic tool is cystoscopy.
- b) Best assessment of penetration is by contrast enhanced CT.
- c) Irregular filling defect in cystogram.
- d) All of the above.

**73. The commonest presentation of nephroblastoma:**

- a) Abdominal mass.
- b) Hematuria.
- c) Renal pain.
- d) Pulmonary metastasis.

**74. The earliest symptom of benign prostatic hyperplasia is:**

- a) Dysuria.
- b) Nocturnal frequency.
- c) Hesitancy.
- d) Post micturition dribbling.

**75. Bladder irrigation during TUR prostatectomy may produce:**

- a) Hemolysis.
- b) Hyperkalemia.
- c) Hyponatremia.
- d) Alkalosis.

**76. A 60-year-old male presenting with painless hematuria gave a history of two similar attacks during the last six months. He had no pain, dysuria or frequency and examination revealed no abnormality. He should be suspected to be suffering from:**

- a) Polycystic kidney
- b) Renal calculus
- c) Carcinoma of the bladder
- d) Hypernephroma

**77. The following statements concerning hypernephroma are true except that it:**

- a) Is a carcinoma arising from renal tubular cells
- b) Commonly arises in one pole of the kidney
- c) Usually manifests itself by recurrent renal hematuria
- d) Never causes pain

**78. The formation of middle lobe in BPH arises from which zone:**

- a) Transitional zone
- b) Peripheral zone
- c) Central zone
- d) None of the above

**79. Localized carcinoma of the prostate is BEST treated by which of the following modalities:**

- a) Bilateral orchiectomy
- b) Estrogens
- c) Orchiectomy followed by estrogens
- d) Radical prostatectomy

**80. The common malignant tumor of renal pelvis and ureter is:**

- a) Squamous carcinoma
- b) Adenocarcinoma
- c) Transitional cell carcinoma
- d) Papillary carcinoma

**81. Concerning bilharzial cancer of the bladder, it is untrue that it:**

- a) Is the commonest malignant urological tumor in Egypt.
- b) Occurs at a much younger age than non-bilharzial cancer.
- c) Arises least often in the trigone.
- d) Is usually of high-grade malignancy.

**82. The indications for prostatectomy in senile enlargement of the prostate include the following EXCEPT:**

- a) One attack of acute retention.
- b) Profuse bleeding.
- c) Stone formation.
- d) Diverticulum formation.

**83. A 45 years old male with a history of recurrent painless hematuria presented with a soft swelling in the upper part of the scrotum. The swelling felt like a "bag-of-warms" and did not alter its size with change of posture. The most probable diagnosis is:**

- a) Primary varicocele.
- b) Hypernephroma with secondary varicocele.
- c) Encysted hydrocele of cord.
- d) Lymphocele.

**84. The advantages of transurethral resection of the prostate over open prostatectomy include the following EXCEPT:**

- a) Lower mortality rate.
- b) Shorter hospitalization.
- c) Preservation of sexual potency.
- d) Avoidance of retrograde insemination.

**85. Before radiologic investigation, which is the best method to distinguish a Wilm's tumor from a neuroblastoma?**

- a) Shifting dullness
- b) Physical examination of the abdomen
- c) Catecholamine levels
- d) Auscultation for bowel sounds
- e) Cortisol administration

**86. Following transurethral resection of a superficial {noninvasive} transitional cell carcinoma, which of the following is instilled in the bladder to decrease the risk of recurrence?**

- a) Cyclophosphamide
- b) Cis-platinum
- c) Methotrexate
- d) BCG (bacilli Calmette-Guerin)

**87. Which of the following classes of medication is the most common initial treatment of men with symptomatic benign prostatic hypertrophy {BPH}?**

- a) Alpha agonist
- b) Beta agonist
- c) Alpha blocker
- d) Beta blocker

**88. Elevated tumor markers associated with pure seminomatous testis carcinoma include**

- a) AFP
- b) LDH
- c) B-hCG
- d) B-hCG and LDH

**89. Because of positive biopsy findings and negative workup, he undergoes a radical prostatectomy. The pathology report reveals Gleason score 9/10 and**

involvement of several pelvic lymph nodes. Which is the most likely site for prostatic cancer metastasis?

- a) Liver                      b) Bone                      c) Kidney                      d) Brain

**90. A 42-year-old man has recurrent cystitis. Cystoscopic examination and biopsy confirm the presence of locally muscle invasive (T2) carcinoma of the bladder?**

- a) Repeat cystoscopic resection                      c) Partial cystectomy  
b) Cystoscopic fulguration                      d) Radical cystoprostatectomy

**91. The treatment of metastatic prostate cancer is:**

- a) Luteinizing hormone-releasing hormone (LRH) agonist.  
b) Interstitial radiotherapy (brachytherapy).  
c) External radiotherapy.                      d) Radical prostatectomy.

**92. One of the following symptoms is specific to urinary bladder cancer:**

- a) Hematuria.                      c) Pneumaturia.  
b) Burning micturition.                      d) Necroturia.

**93. The commonest symptom of a renal cell carcinoma is:**

- a) Renal colic.                      b) Jaundice                      c) Varicocele.                      d) Hematuria

**94. One of the following urinary tumors is multicentric:**

- a) Renal cell carcinoma.                      c) Transitional cell carcinoma (TCC).  
b) Nephroblastoma.                      d) Squamous cell carcinoma (SCC).

**95. Renal cell carcinoma:**

- a) Always present in the upper pole.                      b) Treated by simple nephrectomy.  
c) Usually presents by pain, hematuria, or renal mass.  
d) None of the above.

**96. Wilm's tumor (CHOOSE THE INCORRECT):**

- a) It represents 10% of childhood malignancies.  
b) Commonly presents by abdominal mass.  
c) The best investigation is CT.  
d) Chemotherapy and radiotherapy don't improve prognosis.

**97. Transitional cell carcinoma of the bladder:**

- a) Cigarette smoking increases the risks by 4 folds.  
b) Superficial type is treated by TUR.  
c) Radical cystectomy is indicated if muscle is invaded.  
d) All of the above.

**98. The main presentation of Wilms' tumor is:**

- a) Abdominal mass.                      c) Hematuria.  
b) Pain                      d) Hypertension.

**99. The following statements about carcinoma of the prostate are true EXCEPT that it:**

- a) Is a disease of elderly males.  
b) The majority of neoplasms (75%) arise from the peripheral zone.

- c) BPH is a predisposing factor.
  - d) Often remains asymptomatic until it becomes non-resectable.
- 100. About Wilms' tumor, all the following statements are true, except:**
- a) The tumor contains epithelial and connective tissue elements.
  - b) The commonest presentation is hematuria.
  - c) Differential diagnosis is neuroblastoma.
  - d) The main line of treatment is nephrectomy.
- 101. Renal cell carcinoma seems to arise from:**
- a) Proximal convoluted tubules
  - b) Distal convoluted tubules
  - c) Loop of Henle.
  - d) Collecting tubules.
- 102. When assessing a potential renal carcinoma CT will give information about all EXCEPT:**
- a) The size of the tumor and its site of origin,
  - b) Presence of enlarged lymph nodes at the renal hilum
  - c) Invasion of renal vein and IVC.
  - d) None of the above.
- 103. The most frequent site of metastases from Wilm's tumors is:**
- a) Lungs
  - b) Adrenal glands
  - c) Liver
  - d) Skeletal
- 104. The most common symptom of bladder cancer is:**
- a) Lower abdominal pain
  - b) Urgency
  - c) Frequency
  - d) Painless hematuria.
- 105. The best method to accurately assess the depth of penetration of bladder cancer:**
- a) CT scan
  - b) Ultrasonography
  - c) MRI
  - d) Contrast enhanced CT scan
- 106. The preferred treatment of muscle invasive bladder cancer is:**
- a) Radical cystectomy.
  - b) Radiation therapy alone.
  - c) Preoperative irradiation and radical cystectomy.
  - d) Preoperative chemotherapy and partial cystectomy.
- 107. The best operative treatment for BPH is:**
- a) Transurethral resection (TURP).
  - b) Laser prostatectomy.
  - c) Open prostatectomy.
  - d) Thermotherapy.
- 108. A 75-year-old man underwent TURP operation. Biopsy revealed foci of adenocarcinoma. Next step of management is:**
- a) Surgery followed by radiotherapy
  - b) No treatment is required
  - c) Hormonal replacement therapy
  - d) Radiotherapy.
- 109. Regarding treatment of renal cell carcinoma, which of the following statements is true?**
- a) Induction chemotherapy followed by nephrectomy yields the best overall results
  - b) Radical nephrectomy involves removal of the kidney, adrenal gland, perinephric fat, fascia of Gerota and regional lymph nodes
  - c) Regional lymphadenectomy for lesions extending outside the kidney improves postoperative survival



- d) CT- or ultrasound - guided biopsy of the renal mass should be performed before nephrectomy

## Testis

- 110. Hydroceles form between**
- a) The external spermatic and cremasteric fascia
  - b) The cremasteric and internal spermatic fascia
  - c) The internal spermatic fascia and the parietal layer of the tunica vaginalis
  - d) The visceral and parietal layers of the tunica vaginalis
- 111. Elevated serum levels of alpha fetoprotein in a man with a firm testicular mass make which of the following diagnosis most likely?**
- a) Seminomatous germ cell tumor
  - b) Non seminomatous germ cell tumor
  - c) Leydig cell tumor
  - d) Sertoli cell tumor
- 112. Following documentation of a firm mass in the testes by ultrasound in a 32-year-old male, tissue should be obtained for diagnosis by:**
- a) Fine-needle aspiration
  - b) Core-needle biopsy
  - c) Open biopsy
  - d) Orchiectomy
- 113. Empty scrotum may be due to:**
- a) Testicular agenesis.
  - b) Fetal testicular torsion.
  - c) Arrested testis.
  - d) All of the above
- 114. All of the following are causes of unilateral testicular arrest except:**
- a) Testicular dysgenesis.
  - b) Low maternal HCG.
  - c) Malformed inguinal canal.
  - d) Short testicular artery.
- 115. Testicular arrest is more:**
- a) On left side.
  - b) On right side.
  - c) Equal on both sides.
  - d) All of the above.
- 116. Risk factors of testicular arrest include:**
- a) +ve family history.
  - b) Down syndrome.
  - c) Teratogenic drugs.
  - d) All of the above.
- 117. Testicular arrest is associated with urinary anomalies in:**
- a) 5% of cases.
  - b) 15% of cases.
  - c) 40% of cases.
  - d) 50% of cases.
- 118. Concerning undescended testis, the following statements are true except that it:**
- a) Affects about 1% of all males
  - b) Is bilateral in about 20% of cases
  - c) Is commoner on the right than on the left side
  - d) Is rarely associated with inguinal hernia
- 119. The most diagnostic investigation in arrested testis is:**
- a) US.
  - b) CT.
  - c) Laparoscopy.
  - d) Doppler.
- 120. Best time for orchiopexy is:**



- a) At 1st day of life. c) At 5 years.  
b) 6-15 months. d) At puberty.
- 121. Best treatment for testicular torsion is:**  
a) Resuscitation. c) Orchiopexy for other testis.  
b) Early operation to untwist the testis. d) All of the above in sequence.
- 122. While lifting a heavy weight, an adolescent male felt sudden severe pain in the testis, groin and lower abdomen associated with vomiting, sweating and collapse. Examination revealed an acutely tender inguino-scrotal swelling with redness and edema of the overlying skin. He proved to have:**  
a) Strangulated inguinal hernia c) Acute epididymo-orchitis  
b) Traumatic orchitis d) Torsion of the testis
- 123. Regarding incidence of testicular neoplasm:**  
a) Most testicular neoplasms are malignant.  
b) Mostly occurs above 60 years of age.  
c) Most common neoplasm is teratoma. d) All of the above.
- 124. Radiosensitive testicular neoplasm is:**  
a) Seminoma. c) None of the above.  
b) Teratoma. d) All of the above.
- 125. Regarding testicular tumors, the untrue is:**  
a) Seminomas and teratomas are more common than non-germ cell tumors.  
b) Seminomas send pulmonary metastasis.  
c) They have an increased incidence in undescended testis.  
d)  $\alpha$ -fetoprotein and  $\beta$ -HCG are tumor markers.
- 126. Complications of varicocele include the following except:**  
a) Sub fertility. c) Malignancy.  
b) Secondary hydrocele. d) Testicular atrophy.
- 127. Indications of surgical correction of varicocele include the following except:**  
a) Severe persistent pain. b) Thrombophlebitis. c) Secondary varicocele.  
d) All cases should be treated surgically for fear of complications.
- 128. The main disadvantage of Paloma operation is:**  
a) Testicular artery injury. c) Hernia formation.  
b) High recurrence. d) Injury to vas.
- 129. All of the following are true about hydrocele, except:**  
a) It is a collection of fluid within the tunica vaginalis.  
b) A congenital hydrocele causes an intermittent swelling.  
c) Testicular biopsy can cause hydrocele.  
d) Drainage is an effective treatment.
- 130. Which of the following is false about testicular tumors:**  
a) A scrotal lump that is inseparable from the testis is likely to be a tumor.  
b) Teratomas occur at earlier age than seminomas.

- c) Seminomas usually spread via lymphatics.
  - d) Diagnosis is confirmed by U/S guided FNAC.
- 131. Which of the following statements is true of testicular cancer?**
- a) It is the most common solid tumor in men over 50 years of age.
  - b) It is not associated with a higher incidence of infertility.
  - c) It presents as a painless mass in the scrotum in more than 70% of patients.
  - d) It accounts for 10% of malignant tumors in men.
- 132. Patient with seminoma without scrotal skin involvement will have these lymph nodes metastasis felt clinically:**
- a) In the epigastrum
  - b) In the femoral triangle
  - c) Medial to the femoral vessels
  - d) Abdominal mass below the umbilicus
- 133. Predisposing factors for torsion of testis include:**
- a) Inversion of the testis.
  - b) High investment of tunica vaginalis.
  - c) Separation of epididymis.
  - d) All of the above.
- 134. What is not true of varicocele:**
- a) Common to short and flabby persons.
  - b) Left side is more frequently affected than right.
  - c) Feels like a bag of worms.
  - d) Affected testis hangs lower.
- 135. Crystal clear fluid content is characteristic of:**
- a) Epididymal cyst.
  - b) Spermatocele.
  - c) Hydrocele
  - d) Encysted hydrocele of cord
- 136. Seminomas commonly spread by:**
- a) Lymphatics.
  - b) Blood stream.
  - c) Contiguous spread along vas.
  - d) All of the above.
- 137. Torsion of testes shares many features with epididymo-orchitis EXCEPT:**
- a) Pain.
  - b) Fever
  - c) Skin redness.
  - d) Relief of pain on elevation.
- 138. Which of the following is *not* a common symptom of testicular torsion:**
- a) Pain.
  - b) Dysuria.
  - c) Low grade fever.
  - d) Red edematous scrotum.
- 139. Beaded feeling of vas is commonly due to:**
- a) Filariasis.
  - b) Tuberculosis.
  - c) Syphilis.
  - d) None of the above.
- 140. A 25-year-old man notices a hard lump on his left testicle while in the bath. Investigations reveal a positive pregnancy test.**
- a) Indirect inguinal hernia.
  - b) Teratoma.
  - c) Seminoma.
  - d) Varicocele.
- 141. The appropriate management for suspected carcinoma of the testis is:**
- a) Inguinal exploration and radical orchiectomy if tumor is confirmed by frozen section.
  - b) Trans-scrotal percutaneous biopsy followed by orchiectomy if tumor is confirmed by paraffin section.

- c) Trans-scrotal open biopsy and radical orchiectomy if tumor is confirmed by frozen section
  - d) Repeated examinations with follow up of the size of the nodule by ultrasonography.
- 142. A 16 years old boy presented with a swollen red scrotum of 12 hrs duration. Which of the following clinical findings favors the diagnosis of torsion testis**
- a) The patient is feverish and has burning micturation
  - b) Groin pain is sudden and associated with vomiting
  - c) The spermatic coed above the testes is not tender
  - d) Elevation of the testis reduces the pain
- 143. Which one of the following is not used as a tumor marker in testicular tumors?**
- a) AFP (alpha fetoprotein)
  - b) LDH (lactic dehydrogenase)
  - c) HCG (human chorionic gonadotropin)
  - d) CEA (carcinoembryonic antigen)
- 144. Varicocele is more commonly seen in the left side due to the following reasons, except:**
- a) the left testicular vein opens at a right angle to the left renal vein
  - b) the loaded sigmoid colon exerts pressure on the left testicular vein
  - c) the opening of the left testicular vein is close to the opening of the adrenal veins, hence it is exposed to action of adrenergic hormones
  - d) compression of left renal vein between the aorta & inferior mesenteric artery
- 145. Regarding carcinoma of the testis, all of the following are true, EXCEPT:**
- a) Seminomas and teratomas are more common than non-germ-cell tumors
  - b) They are rarely bilateral.
  - c) They have an increased incidence in the undescended testis
  - d) Alpha fetoprotein and  $\beta$ -HCG are tumor markers.
- 146. The differential diagnosis of a patient presenting with an acute scrotum includes all the following except:**
- a) Testicular torsion
  - b) Acute epididymo-orchitis
  - c) Massive hydrocele
  - d) Torsion of testicular appendix
- 147. The most common tumor of testis is:**
- a) Teratoma.
  - b) Seminoma.
  - c) Leydig cell tumor.
  - d) Lymphoma.

### Miscellaneous

- 148. A 64-year-old woman with symptoms typical of cholelithiasis undergoes ultrasound of the abdomen, which detects an asymptomatic, solid left renal mass. Which of the following should be the next examination?**
- a) Excretory urographic studies
  - b) Renal angiographic studies
  - c) CT of the abdomen
  - d) Radionuclide scanning of the urinary tract
- 149. A 45-year-old man complains of severe flank pain and gross hematuria. Urinalysis reveals 200 red blood cells per high-power field, and his creatinine level is normal. What should the next test be?**

- a) Imaging of the kidney, ureter, and bladder (KUB)
  - b) IVP
  - c) Ultrasonography
  - d) CT of the abdomen and pelvis
- 150. Which of the following is an indication for expectant management of renal calculi?**
- a) Progressive renal damage
  - b) Intractable pain
  - c) Persistent or progressive obstruction
  - d) Detection of any calculi
- 151. Which of the following is not a principle of repair of an intraoperative ureteral injury?**
- a) Use of non-absorbable suture material
  - b) Spatulation of the transected ends
  - c) Foley catheter drainage
  - d) Drainage
- 152. A properly constructed cutaneous uretero-ileostomy (ileal conduit) should do which of the following?**
- a) Provide an adequate reservoir for storage of urine
  - b) Prevent ureteral reflux
  - c) Require catheterization for emptying
  - d) Separate the urinary and fecal streams
- 153. The anatomic abnormality found with torsion of the testicle in adolescents most commonly involves which of the following?**
- a) Intravaginal torsion of the spermatic cord
  - b) Extravaginal torsion of the spermatic cord
  - c) Torsion of the appendix testis
  - d) Torsion of the appendix epididymis
- 154. A 65-year-old man is unable to void after an abdominoperineal resection. Post-void residuals have been 600 to 800 ml. The treatment of choice is which of the following?**
- a) Chronic Foley catheterization
  - b) TURP
  - c) Clean intermittent catheterization
  - d) Transurethral sphincterotomy
  - e) Alpha blockers alone
- 155. Which of the following is true regarding enterovesical fistulas?**
- a) Barium enema is the most sensitive imaging test.
  - b) An oral charcoal test will localize a fistula to the small bowel.
  - c) Pneumaturia is the most common initial sign/symptom.
  - d) A definitive diagnosis can be made 90% of the time with cystoscopy.
- 156. Benign cyst by UIS all are correct, except:**
- a) Is smooth containing clear fluid.
  - b) Leaves residual mass after aspiration.
  - c) No rapid recollection.
  - d) All are true.
- 157. Urinary system investigations:**
- a) IVP is safe in renal impairment.
  - b) Cystogram is the most diagnostic method of urinary bladder carcinoma.
  - c) Vesicoureteric reflux is diagnosed by MCU.
  - d) Cystoscopy of bladder carcinoma shows pseudotubercle, sandy patches and ulceration.

- 158. Which of the following is/are false about hematuria?**
- a) Microscopic hematuria is not always abnormal.
  - b) Hematuria at the start of micturition indicates a cause in lower urinary system.
  - c) Painful hematuria indicates malignant pathology.
  - d) A&C.
- 159. Which of the following is/are true?**
- a) Pain of renal origin is deep-seated, sickening ache.
  - b) Pain from urinary bladder is a suprapubic discomfort.
  - c) Pain from a ureteric stone is colicky.
  - d) All of the above.
- 160. Which of the following vessels drain(s) into the inferior vena cava?**
- a) Renal veins
  - b) Superior mesenteric vein
  - c) inferior mesenteric vein
  - d) Splenic vein
- 161. Complications of urethral catheterization include all of the following, EXCEPT:**
- a) Urethral stricture.
  - b) False passage.
  - c) Hypovolemia if done for acute retention.
  - d) Epididymitis.
- 162. The renal angle lies between:**
- a) The costal margin and the spines of the vertebrae.
  - b) The sacrospinalis and the midline.
  - c) The costal margin and the midline.
  - d) The costal margin and the sacrospinalis.
- 163. The location of external urethral sphincter is:**
- a) At bladder neck.
  - b) Within prostatic urethra.
  - c) In membranous urethra.
  - d) In penile urethra.
- 164. A non-opaque renal pelvis filling defect is seen on IVP is:**
- a) blood clot
  - b) tumor
  - c) uric acid stone
  - d) all of the above
- 165. All of the following form a covering layer over the kidney, except:**
- a) Gerota's fascia (peri-renal fascia)
  - b) Peri-renal fat
  - c) Liver
  - d) Para-renal fat
- 166. With regard to the male urethra, which one of the following segments is the narrowest?**
- a) Pre-prostatic
  - b) Prostatic
  - c) Membranous
  - d) Bulbar
- 167. Which of the following matches a layer of the scrotum with its corresponding fascial layer in the abdominal wall?**
- a) Cremasteric fascia - internal oblique muscle
  - b) Tunica vaginalis - external oblique fascia
  - c) Dartos fascia -transversalis fascia
  - d) External oblique fascia - scarpa fascia
- 168. The right spermatic vein drains into?**
- a) The inferior vena cava (IVC).
  - b) The right renal vein.
  - c) The right inferior epigastric vein.
  - d) None of the above.

- 169. As regards incidence of rupture bladder all are correct except:**
- a) It is more common in males.
  - b) Intraperitoneal rupture is more common.
  - c) Extraperitoneal is always associated with fracture pelvis.
  - d) All of the above.
- 170. Treatment of rupture bladder include the following except:**
- a) Resuscitation.
  - b) Water tight repair without drain.
  - c) Urethral catheter for 2 weeks.
  - d) 2ry survey and treatment of associated injuries.
- 171. Rupture urinary bladder:**
- a) Most commonly extraperitoneal.
  - b) More common in males.
  - c) May cause hematuria.
  - d) All of the above.
- 172. All of the following are true about bulbous urethral rupture except,**
- a) It is caused by direct blow to the perineum.
  - b) Acute retention occurs.
  - c) There is perineal haematoma with blood at the urethral meatus.
  - d) Urethral catheterization may be attempted as an alternative.
- 173. A 64-year-old male is admitted to the emergency department following a car accident. His pulse is 94 b/min, blood pressure 95/60 mm Hg, and HCT 30%. Severe hematuria is evident. Following resuscitation, his blood pressure is elevated to 120/80 mm Hg. A CT scan reveals extensive contusion confined to the left kidney and peri-renal fat. His blood pressure declines to 80/40 mm Hg, and urgent laparotomy is performed via?**
- a) A left flank incision
  - b) A midline abdominal incision
  - c) A Gibson incision
  - d) A thoraco-abdominal incision
- 174. A patient with complete urethral injury following a severe road traffic accident is best treated by:**
- a) Insertion of a Foley catheter for 6 weeks.
  - b) Insertion of a Foley catheter for 4 weeks.
  - c) Urgent surgical repair of urethra.
  - d) Suprapubic catheter insertion
- 175. The following statements about intrapelvic rupture of the urethra are correct EXCEPT that it:**
- a) Always involves the membranous urethra.
  - b) May be a complication of pelvic fractures.
  - c) Is usually associated with rupture of the puboprostatic ligaments.
  - d) Produces no rectal signs.
- 176. In a male patient with a pelvic fracture secondary to blunt trauma, retrograde urethrographic examination demonstrates disruption of the membraneous urethra. Which of the following constitutes appropriate initial treatment?**
- a) Passage of a transurethral catheter.
  - b) Suprapubic ystostomy.
  - c) Urethrostomy.
  - d) Retropubic repair.

- 177. Which of the following should not be done in a patient of pelvis fracture with perineal hematoma and inability to pass urine:**
- a) Rectal examination.
  - b) Urethral catheterization
  - c) IVP
  - d) IV fluid
- 178. Extra peritoneal bladder rupture is usually treated by:**
- a) Placement of a Foley catheter and expectant management.
  - b) Supra pubic cystostomy.
  - c) Endoscopic repair.
  - d) Laparotomy.
- 179. The following may be a presentation of perinephric abscess:**
- a) FAHMR.
  - b) Psoas spasm.
  - c) Hiccough.
  - d) All of the above
- 180. About urinary tract infection all are true, except:**
- a) It is the most common cause of phosphate stone.
  - b) The most common organism is proteus mirabilis.
  - c) Causes of stasis are very common predisposing factors.
  - d) More in females.
- 181. Regarding urinary bladder bilharziasis all are true, except:**
- a) Diagnosed by presence of sandy patches, pseudotubercles or ulcerations in cystoscope.
  - b) Leads to urinary bladder carcinoma.
  - c) Causes total hematuria.
  - d) All of the above.
- 182. Urinary Schistosomiasis causes all the following, except:**
- a) Lower ureters stricture.
  - b) Bladder neck obstruction.
  - c) Chronic cystitis.
  - d) Squamous cell carcinoma of renal pelvis.
- 183. UTI:**
- a) Gonococci are the most common causative organisms.
  - b) Stone and catheterization are major predisposing factors.
  - c) More common in males.
  - d) All of the above.
- 184. Bilharziasis:**
- a) Commonly affects the lower end of ureter.
  - b) Hematuria is characterized by being total hematuria.
  - c) Fibrosis of urinary bladder is not common.
- 185. The route of infection of the kidney in tuberculosis is:**
- a) Direct invasion
  - b) Hematogenous Spread
  - c) Lymphatic spread
  - d) Ascending spread
- 186. A patient with acute urinary tract infection (UTI) usually presents with:**
- a) Chills and fever.
  - b) Nausea and vomiting
  - c) Flank pain.
  - d) Painful urination
- 187. A 40-year-old man presents with a left-sided renal colic. Intravenous urogram (IVU) shows a 1 cm calculus in the upper third of his ureter. There is no complete obstruction. His symptoms fail to resolve on conservative management. What is most appropriate management?**
- a) Percutaneous nephrolithotomy (PCNL)
  - b) Nephrectomy



- c) Extracorporeal shock wave lithotripsy (ESWL) d) Percutaneous nephrostomy
- 188. The best treatment for 1 cm renal stone in 35 years old male is:**
- a) ESWL. c) Open surgery.  
b) Medical chemolysis d) Percutaneous lithotripsy
- 189. Male patient presented with acute onset of colicky left loin pain and previous history of urinary calculi. Which of the following is the investigation of choice to determine the presence of calculus in the renal tract?**
- a) Intra venous pyelography (IVP) b) KUB X-Ray. c) Flexible cystoscopy.  
d) Dimercaptosuccinic acid scan (DMSA SCAN).
- 190. Sulphur is:**
- a) Radiopaque c) Can be both  
b) Radiolucent. d) All of the above.
- 191. Predisposing factors of urinary stones include:**
- a) Urinary bladder diverticulae. c) Metabolic causes.  
b) Recurrent urinary tract infection. d) All of the above.
- 192. Renal calculus formation has been shown to be related to all of the following except:**
- a) Vitamin D metabolism. c) Immobilization.  
b) Urea splitting bacteria. d) Malabsorption.
- 193. All of the following imaging techniques are used for urinary stones except:**
- a) PUT. b) CT. c) IVU. d) Retrograde pyelography.
- 194. Following nonsurgical management of the stone, the patient is readmitted with severe colicky pain radiating to the left groin. There is minimal tenderness in the left abdomen. An xray shows a stone in the ureter at the level of the L-5 vertebra. Surgical intervention should be considered for which reason?**
- a) For all ureteric stones c) If urinary tract infection is present  
b) If analgesics are required d) If impaired renal function occurs
- 195. Patients with bladder stones are at increased risk for which of the following bladder cancers?**
- a) Adenocarcinoma c) Squamous cell carcinoma  
b) Transitional cell carcinoma d) Choriocarcinoma
- 196. Stones:**
- a) The most common type of stones is uric acid.  
b) Radiolucent stones are more common.  
c) They are always asymptomatic. d) None of the above.
- 197. Stone in the lower part of the ureter may be treated by:**
- a) Medical treatment. c) Surgical removal.  
b) Endoscopic treatment. d) All of the above (full options).



- 198. Which of the following is radiolucent on plain UT film:**
- a) Calcium phosphate stones.
  - b) Calcium oxalate stones.
  - c) Cystine stone.
  - d) Cholesterol.
- 199. Which of the following statements regarding ureteric colic is true:**
- a) The pain is restricted to the loin when the stone is coming out of the kidney
  - b) The pain radiates to the groin when the stone is in upper ureter
  - c) In lower ureteric stones, pain radiates to the perineum
  - d) All of the above.
- 200. With regard to bladder stones all are true, EXCEPT:**
- a) Men are more affected than women.
  - b) An oxalate calculus develops in sterile urine.
  - c) A cystine calculus is radio opaque.
  - d) Treatment is crushing with an optical lithotrite in all cases.
- 201. Regarding renal stones-spot the true statement:**
- a) Uric acid stones are radiolucent.
  - b) Pelvic phlebolith can mimic stone.
  - c) Stone overlying bony structure may not be visible on a plain film.
  - d) All are true.
- 202. The complications of unilateral hydronephrosis include the following EXCEPT:**
- a) Hematuria.
  - b) Stone formation.
  - c) Infection.
  - d) Uremia.
- 203. As regard pathology of BPH:**
- a) It arises from submucous glands.
  - b) It leads to elongation and compression of urethra.
  - c) It is a fibromyoadenoma.
  - d) All of the above.
- 204. The left spermatic vein drains into the**
- a) Left iliac vein
  - b) Left inferior epigastric vein
  - c) Left side of the inferior vena cava
  - d) Left renal vein
- 205. As regard complications of cancer prostate:**
- a) Most common site for distant metastasis is vertebral column.
  - b) Urine retention is a late complication.
  - c) Most common sexual complication after prostatectomy is retrograde ejaculation.
  - d) All of the above.
- 206. Radiological findings of benign hypertrophy of the prostate include all of the following except:**
- a) Filling defect at base of the bladder.
  - b) Diverticulae of the bladder.
  - c) Urethral narrowing.
  - d) Ureteral dilatation.

- 207. An 80-year-old man presents to his GP with a 6-month history of increasing urinary frequency. He passes urine approximately eight times during the day and six times each night but feels that he has not completely voided. In addition, he reports that his stream is very slow and finds it hard to stop, with micturition prolonged due to terminal dribbling. He is otherwise fit and healthy with no other symptoms reported. On rectal examination, the prostate is found to be smoothly enlarged with no other significant findings on systemic examination. Which of the following layers of the prostate gland is likely to be enlarged in this man?**
- a) Transition zone
  - b) Central zone
  - c) Peripheral zone
  - d) Anterior fibromuscular stroma
- 208. All of the following are true, except:**
- a) Most urinary calculi are radiodense.
  - b) U/S provides broadly similar anatomical information as IVU.
  - c) IVU has no advantage over u/s.
  - d) IVU can be dangerous.
- 209. The following are the causes of pre-renal uremia EXCEPT:**
- a) Hypovolemia
  - b) Severe blood loss
  - c) Gram-negative sepsis
  - d) Acute glomerulonephritis.
- 210. The urine can be brown in color due to presence of:**
- a) Rifampicin
  - b) Phosphates
  - c) Amitriptyline
  - d) Ketone bodies
- 211. A 14 year old boy presents with acute pain and swelling of the scrotum for the last two hours. On examination, the right side of the scrotum is swollen and tender. The cremasteric reflex is absent. The next step is:**
- a) Urgent surgery on the right compartment of the scrotum.
  - b) Urgent surgery on both sides of the scrotum.
  - c) Fine needle aspiration cytology.
  - d) Intravenous antibiotics.
- 212. ALL of the following signs are present in torsion testis except:**
- a) The affected testis is elevated.
  - b) The skin of the scrotum is normal.
  - c) There is vomiting.
  - d) The contralateral testis has a transverse lie
- 213. The complications of undescended testis include the following, except:**
- a) Torsion of the spermatic cord.
  - b) Malignancy.
  - c) Loss of 2ry sex characters.
  - d) Infertility.
- 214. Left side varicocele is common due to:**
- a) Left spermatic vein enters left renal vein at right angle.
  - b) Left testicular artery arches over left renal vein.
  - c) Left testicular vein is larger than right..
  - d) All of the above.
- 215. Secondary hydrocele can be due to:**
- a) Testicular tumor.
  - b) Testicular torsion.
  - c) Epididymo-orchitis.
  - d) All of the above

**216. An undescended testis is prone for:**

- a) Torsion.                      b) Malignancy                      c) Trauma.                      d) All of the above

**217. Cryptorchidism all are true, EXCEPT:**

- a) Occurs in 5% of newborn boys.                      b) Increases risk of malignancy.  
c) Is associated with reduced fertility.  
d) Should be treated by orchidopexy at puberty.

**218. If torsion of the testicle is suspected, surgical exploration:**

- a) Should be done on the affected side only, and after confirmation by duplex ultrasonography.  
b) Can be delayed for 24 hours if pain is relieved by analgesics.  
c) Should be postponed if epididymo-orchitis is suspected and 48 hour antibiotic trial started.  
d) Should be immediate and include the asymptomatic side.

**219. With regards to testicular pain:**

- a) testicular torsion can present with lower abdominal pain  
b) testicular pain in children is commonly due to epididymo-orchitis  
c) torsion can be easily excluded on careful examination alone  
d) A varicocele will readily transilluminate

**220. Regarding undescended testis all are true EXCEPT:**

- a) Can be associated with contralateral testicular dysfunction  
b) Should be treated by orchidopexy by age 4.  
c) Is associated with inguinal hernia  
d) Predisposes to malignant change.

**221. Regarding unilateral incompletely descended testes, all the following are true, EXCEPT:**

- a) Occurs more often in premature than full term babies.  
b) The majority descend in the first year.  
c) Should ideally be operated upon between 6 and 7 years.  
d) Associated with increased risk of testicular malignancy.

**222. A 14 year old boy is brought to the emergency department with a 4 hour history of acute, severe left scrotal pain, examination reveals a high riding left testicle with severe pain on palpation urine analysis doesn't reveal any evidence of red or white blood cells which of the following is the treatment of choice at this point?**

- a) heat, scrotal elevation and antibiotics                      c) analgesics and reexamination  
b) manual attempt at detorsion                      d) surgical exploration

**223. Which of the following is true regarding varicocele?**

- a) varicoceles occur more commonly on the right side  
b) varicoceles are associated with infertility  
c) varicoceles occur in about 40% of men  
d) varicoceles are often associated with testicular tumours

- 224. During a workup for infertility, a 34-year-old man is noted to have a solid tumor in the anterior aspect of his right testis. What is the most likely diagnosis?**
- a) Torsion of the testis
  - b) Cyst of the epididymis
  - c) Lipoma of the cord
  - d) Testicular cancer
- 225. The vaginal hydrocele is characterized by all of the following except:**
- a) Fluctuation is positive
  - b) Eversion and excision of the tunica is the main line of treatment
  - c) The swelling is usually found above the neck of the scrotum
  - d) Aspiration is followed by recurrence
- 226. The 1st LN station draining testis is:**
- a) Inguinal.
  - b) Internal iliac.
  - c) Para-Aortic.
  - d) Supraclavicular.
- 227. Most common presentation of testicular neoplasm is:**
- a) Severe dull aching pain.
  - b) Accidentally discovered painless mass.
  - c) Secondary hydrocele.
  - d) Bone pain &/or hemoptysis.
- 228. The tunica vaginalis corresponds to:**
- a) Internal oblique.
  - b) Transversalis fascia.
  - c) Peritoneum.
  - d) None of the above.
- 229. Inversion of testis may be:**
- a) Anterior.
  - b) Anterolateral.
  - c) Lateral.
  - d) A&C
- 230. Most common site of arrest of testis is:**
- a) Abdominal cavity.
  - b) Inguinal canal.
  - c) Pelvis.
  - d) Superficial inguinal pouch.
- 231. The following are complications of arrested testis:**
- a) Torsion.
  - b) Trauma.
  - c) Tumor.
  - d) All of the above.
- 232. Histologically benign prostatic hyperplasia is:**
- a) Adenoma
  - b) Fibroadenoma
  - c) Fibromyoadenoma
  - d) None of the above
- 233. A 55-year old male presented because of nocturnal frequency, weak stream and recurrent hematuria. Examination revealed no abnormality apart from soft, smooth, symmetrical enlargement of the prostate. The most probable diagnosis is**
- a) Chronic prostatitis.
  - b) Tuberculosis of prostate.
  - c) Bilharzial prostatitis.
  - d) Senile enlargement of prostate.
- 234. All of the following are true about UB carcinoma except,**
- a) Painful hematuria is the most significant symptom.
  - b) Depth of invasion and grade of the tumor are important in planning treatment.
  - c) It is the most common urological malignancy in Egypt.
  - d) Smoking is a predisposing factor.

- 235. All of the following are true about the management of BPH except,**
- a) All patients with acute retention ultimately require surgery.
  - b) Chronic retention accounts for 15% of prostatectomies.
  - c) Drug therapy can with alpha-blockers or reductase inhibitors.
  - d) A low maximum flow rate of < 10 ml/s and a residual urine of 100-250 ml are indications for surgery.
- 236. Which of the following is false about cancer prostate?**
- a) The histological type is an adenocarcinoma.
  - b) Gleason staging system is based on the degree of glandular differentiation.
  - c) Prostate cancer is the commonest site for skeletal metastases.
  - d) Skeletal metastases from cancer prostate are always osteolytic.
- 237. Benign prostatic hyperplasia and prostate carcinoma:**
- a) Arise from similar zones of the prostate gland
  - b) Arise from different zones of the prostate
  - c) Affect the population at similar prevalence
  - d) Are examples of a progressive disease from hyperplasia to malignancy
- 238. Acceptable treatment(s) for localized prostate cancer includes:**
- a) Radical prostatectomy
  - b) External-beam radiotherapy
  - c) Brachytherapy (prostatic seed implantation)
  - d) All of the above
- 239. A 62-year-old African American male attorney presents to a prostate-screening clinic during National Awareness Week. On careful questioning, he has noted slight urgency, frequency, nocturia, and a decrease in the force of micturition. He is referred to have blood tests to include which of the following?**
- a) Carcinoembryonic antigen (CEA)
  - b) Prostatic acid phosphatase
  - c) Alkaline phosphatase
  - d) Prostate-specific antigen (PSA)
- 240. BPH:**
- a) Commonly affects old males at the age of 40.
  - b) May present by frequency, hesitancy, weak stream, and sense of incomplete voiding.
  - c) The best way for examination is suprapubic abdominal examination.
- 241. Squamous cell carcinoma of the bladder:**
- a) Is chemo and radiosensitive.
  - b) Superficial type is treated by TUR.
  - c) Radical cystectomy is always indicated.
  - d) All of the above.
- 242. Prostatic carcinoma:**
- a) The gland is nodular and asymmetrical by PR examination.
  - b) PSA is the most important tumor marker for diagnosis and follow-up.
  - c) Bone metastases are usually osteoblastic.
  - d) All of the above.
- 243. The 1<sup>st</sup> line of treatment in BPH:**
- a) Alpha blocker.
  - b) Hormonal treatment to decrease size of gland.
  - c) Estrogen.
  - d) Anti-androgen.

- 244. All of the following lines are used in the treatment of benign prostatic hyperplasia, EXCEPT:**
- a) TURP.
  - b) Alpha blockers.
  - c) Diuretics to increase the urinary flow.
  - d) Endoscopic cryoablation.
- 245. The following are complications of benign prostatic hyperplasia, except:**
- a) Urinary calculi.
  - b) Bladder diverticulum.
  - c) Cancer prostate.
  - d) Renal failure,
- 246. Prostate cancer occurs most commonly in which zone of the prostate?**
- a) Central zone.
  - b) Urethral zone.
  - c) Transitional zone.
  - d) Peripheral zone.
- 247. Carcinoma arising in bladder can be of which type:**
- a) Transitional
  - b) Adenocarcinoma
  - c) Squamous
  - d) Any of the above
- 248. Regarding bladder cancer all are true, except:**
- a) 95% of primary bladder cancers are transitional cell carcinoma.
  - b) Painful hematuria is the most significant symptom.
  - c) Depth of invasion (T) in TNM classification and grade WHO classification I, II, III) are important factors in planning treatment.
  - d) In newly diagnosed tumors 70% do not invade muscle.
- 249. Benign prostatic hyperplasia originates from which part of prostate:**
- a) Urethral glands.
  - b) Transitional zone.
  - c) Central zone.
  - d) Peripheral zone.
- 250. What happens to prostatic urethra in BPH:**
- a) Lengthened.
  - b) Compressed laterally.
  - c) Curved.
  - d) All of the above.
- 251. Which of the following is not a feature of prostatism:**
- a) Hesitancy.
  - b) Frequency.
  - c) Urgency.
  - d) Hematuria.
- 252. In BPH, prostatectomy is advised in presence of:**
- a) Retention.
  - b) Chronic infection.
  - c) Hemorrhage.
  - d) All of the above.
- 253. Skeletal metastasis commonly arises from cancer of:**
- a) Thyroid.
  - b) Bronchus
  - c) Breast.
  - d) Prostate.
- 254. Prostate cancer arises from:**
- a. Urethral glands.
  - b. Submucosal glands.
  - c. Prostatic gland proper.
  - d. All of the above.
- 255. The most (suggestive) sign or symptom of urinary system malignancy is:**
- a) Urinary frequency.
  - b) Pneumonia
  - c) Pyuria.
  - d) Hematuria

- 256. Local staging of bladder cancer is best done by:**
- a) Pelvi-abdominal U/S
  - b) Pelvi abdominal CT
  - c) IVP
  - d) MRI
- 257. Wilm's tumor:**
- a) Is a nephroblastoma.
  - b) Arises from autonomic nerve fibers around the renal vessels.
  - c) Characteristically contains hemorrhagic areas.
  - d) Does not metastasize.
- 258. All of the following is true regarding benign prostatic hyperplasia EXCEPT:**
- a) Is an involutional hyperplasia
  - b) Affects the sub-mucosal group of glands
  - c) Is premalignant.
  - d) Affects the middle lobe
- 259. Torsion testis:**
- a) Can be managed conservatively.
  - b) Associated with raised serum- HCG.
  - c) May be diagnosed by color flow Doppler.
  - d) Ectopic testis is a risk factor
- 260. The incorrect statement about extraperitoneal rupture of the bladder is that it:**
- a. Is almost always a complication of fractured pelvis.
  - b. Causes extravasation in the perivesical space and anterior abdominal wall.
  - c. Causes suprapubic pain with an intense desire to micturate.
  - d. Produces a rapidly increasing tender swelling above the pubis.
- 261. In extrapelvic rupture of the urethra, the following statements are true except that it:**
- a) Usually affects the bulbous portion,
  - b) Causes bleeding from the meatus.
  - c) Results in retention of urine.
  - d) Produces no external signs.
- 262. A 49-year-old woman is undergoing total abdominal hysterectomy for large uterine fibroids. Due to excessive pelvic bleeding associated with the uterus, the left distal ureter is injured with multiple surgical clamps to control the bleeding. The uterus is removed and you are consulted for management of the ureteral injury. Best course of action in management of this left ureteral injury is:**
- a) Primary ureteroureterostomy
  - b) Transureteroureterostomy
  - c) Left nephroureterectomy
  - d) Direct re-implantation into the bladder with psoas hitch

- 263. A 28-year-old male front-seat passenger in a motor vehicle accident is brought to the emergency for evaluation. Physical examination reveals mildly tender abdomen and lack of blood at the urethral meatus. CT scan of the abdomen and pelvis reveals extravasation of contrast dye from the bladder without any other visceral or pelvic bone injuries. The extravasated contrast dye is contained within the pelvis. Best management of the bladder injury is:**
- Insertion of suprapubic catheter
  - Exploratory laparotomy and surgical repair of the bladder injury
  - Insertion of indwelling transurethral Foley catheter
  - Conservative management without any catheter insertion
- 264. A 68-year-old woman with a history of bladder cancer is status 1 month postoperative from radical cystectomy & creation of an orthotopic ileal neobladder. She presents to the ER with a chief complaint of abdominal pain for 5 hours. Physical examination reveals a low-grade fever & a tender abdomen. CT scan reveals free fluid throughout the abdomen and extravasation of contrast dye from the neobladder in abdomen. Management of this patient is best accomplished by:**
- Insertion of suprapubic catheter
  - Exploratory laparotomy and surgical repair of neobladder
  - Insertion of indwelling transurethral Foley catheter
  - Conservative management without any catheter insertion
- 265. A healthy, 45-year-old woman undergoing abdominal hysterectomy and salpingo-oophrectomy for benign disease. The right ureter is accidentally cut. To minimize injury to the ureter, the surgeon should recognize what about this structure?**
- It enters the pelvis at the level of the aortic bifurcation.
  - It passes posterior to the iliac vessels.
  - It passes above the uterine artery.
  - It enters the pelvis immediately distal to the common iliac artery bifurcation.
- 266. Indications for IVP following abdominal trauma include:**
- Blunt trauma to abdomen or back
  - Blunt trauma with microscopic hematuria.
  - Blunt trauma with macroscopic hematuria.
  - All of the above.
- 267. Renal tuberculosis all are correct except:**
- The kidney is affected usually by hematogenous spread.
  - Earliest symptom is frequency.
  - Sterile pyuria increase suspicion.
  - Renal calcification excludes T.B.
- 268. Radiological signs of perinephric abscess include the following except:**
- Enlargement of the renal shadow on the plain film
  - Homolateral scoliosis
  - Obliteration of the psoas shadow
  - Elevation and fixation of the diaphragm



- 269. Renal tuberculosis should be suspected in presence of:**
- a) Sterile pyuria
  - b) Renal calcification
  - c) Indistinct outline of papilla in IVP
  - d) Each of the above
- 270. The commonest cause of bilharzial bladder-neck obstruction is:**
- a) Papillomata in the trigone.
  - b) Bilharzial infiltration of the interureteric bar.
  - c) Ring fibrosis around the internal meatus.
  - d) Bilharzial prostatitis.
- 271. Among the following about acute prostatitis, the incorrect statement is that it:**
- a. Occurs by hematogenous spread from a distant septic focus.
  - b. May be precipitated by prostatic massage or urethral instrumentation.
  - c. Causes perineal pain with frequency, urgency, dysuria and fever.
  - d. May proceed to abscess formation.
- 272. The symptoms of chronic prostatitis include the following except:**
- a. Dull aching pain in perineum or rectum.
  - b. Referred pain in urethra, groins, lumbosacral region and thighs
  - c. Dysuria with frequency and urgency.
  - d. Sterility.
- 273. Which of the following is false about UTI?**
- a) The condition is more common in women.
  - b) In recurrent infections, haematuria and rigors, cystoscopy and imaging are essential.
  - c) In TB cystitis the route of infection is usually haematogenous or lymphatic.
  - d) Carcinoma in situ may present as recurrent abacterial cystitis.
- 274. Genitourinary tuberculosis is characterized by all the following EXCEPT:**
- a) Microscopic hematuria
  - b) Pyuria without bacteriuria
  - c) Causes focal caseation necrosis of the kidney
  - d) It is a primary form of TB
- 275. A 75-year-old man presents to the surgical unit with a 24-hour history of acute onset left loin pain, which seems to worsen intermittently and has not settled with regular simple analgesia. He suffers from mild dementia and is unable to recall the details of his past medical history. The foundation year 2 doctor on call suspects that a urinary calculus is the cause of this man's pain and spots an old pathology report in the patient's notes showing the presence of negatively birefringent crystals in a synovial fluid aspirate. Which one of the following substances is likely to make up the majority of this man's calculus?**
- a) Xanthine
  - b) Uric acid
  - c) (Triple) phosphate
  - d) Calcium oxalate
- 276. Triple phosphate stone consists of all EXCEPT:**
- a) Ammonium.
  - b) Magnesium
  - c) Calcium
  - d) Sodium
- 277. The least symptomatic stone is:**
- a. Oxalate.
  - b. Urate.
  - c. Phosphate.
  - d. Cysteine.

- 278. Stones that are most radiopaque and have density like that of bone are:**
- a) Calcium phosphate stones
  - b) Calcium oxalate stones
  - c) Cystine stones
  - d) Magnesium ammonium phosphate stones
- 279. Acute Ureteric obstruction:**
- a) Is commonly associated with gross hematuria.
  - b) Is commonly associated with deterioration of renal function and rising blood urea nitrogen (BUN) and creatinine values.
  - c) Is commonly associated with ureteric colic.
  - d) Usually requires open surgical relief of the obstruction.
- 280. Acute renal anuria can be attributed to:**
- a) Acute pancreatitis
  - b) Crush syndrome
  - c) Bacteraemic shock
  - d) All of the above.
- 281. As regards treatment of renal malignancies all are correct except:**
- a) Urinary bladder is removed during radical nephrectomy.
  - b) When unresectable radiotherapy and chemotherapy may be tried in Wilm's tumor.
  - c) Chemotherapy and radiotherapy are not effective against RCC as it is adenocarcinoma.
  - d) IL2 is the 2nd line after surgery in RCC.
- 282. Atypical presentation of hypernephroma includes:**
- a) Fever of unknown origin
  - b) Polycythemia
  - c) Hemoptysis/pathological fracture
  - d) All of the above
- 283. The following statements about non-bilharzial carcinoma of the bladder are true except that it:**
- a) Is most often a transitional-cell carcinoma.
  - b) Occurs most frequently in the fundus.
  - c) Usually forms a cauliflower-like mass.
  - d) May manifest itself by painless hematuria.
- 284. In an elderly patient, a prostatic mass was discovered on rectal examination. Features suggestive of malignancy include the following except:**
- a) A rough irregular surface.
  - b) Hard indurated nodules.
  - c) Elevated irregular border.
  - d) Deepening of the median sulcus.
- 285. In carcinoma of the prostate, the following is correct EXCEPT:**
- a) Bleeding is usually the first symptom.
  - b) The tumor is often irresectable at the time it is diagnosed.
  - c) Radionuclide scanning is a useful screening test for bone metastasis.
  - d) The serum acid phosphatase is usually elevated.
- 286. Which of the following is false about Wilm's tumor?**
- a) It is a tumor of embryonic nephrogenic tissue occurring below the age of 5 years.
  - b) Hematuria and fever are the commonest presentations.
  - c) Lymphatic spread is rare.
  - d) Treatment is by surgery, radio- and chemotherapy.

- 287. All of the following are true about hypernehrroma except,**
- a) In 25% of cases there are no local symptoms.
  - b) A left-sided varicocele may be the presenting feature in a male.
  - c) Haematuria and clot colic are the commonest presentation.
  - d) Following nephrectomy, chemo and radiotherapy should be given.
- 288. All of the following are essential investigations in bladder cancer except:**
- a) IVU and U/S.
  - b) Ct scan with contrast is necessary for suspected muscle-invasive tumors.
  - c) Cystoscopy.
  - d) Urine cytology.
- 289. Which of the following is false about BPH?**
- a) It is the most common cause of bladder outflow obstruction in men > 70 years.
  - b) Decrease in serum testosterone and therefore relative increase in estrogen levels may cause it.
  - c) The condition affects the central zone and the transitional zone.
  - d) All lower urinary tract symptoms in men >70 years are due to BPH.
- 290. All of the following are false about treatment of BPH,**
- a) Alpha-adrenergic blockers inhibit the contraction of the prostatic smooth muscles.
  - b) 5 alpha-reductase inhibitors inhibit the conversion of testosterone to DHT.
  - c) TURP can lead to urine incontinence.
  - d) Retrograde ejaculation occurs in all patients after TURP.
- 291. On ORE, which of the following does not suggest cancer prostate?**
- a) Nodules within the prostate.
  - b) Obliteration of the median sulcus.
  - c) Irregular stony hard induration.
  - d) Mobile rectal mucosa over the prostate.
- 292. A 79-year-old man is examined for severe pain in the iliac crest. Metastatic disease from prostatic cancer is confirmed. What is the treatment offered initially to most patients with metastatic prostatic cancer?**
- a) Cortisone and pituitary ablation
  - b) Radical prostatectomy
  - c) Luteinizing releasing hormone (LRH) agonist (Leuprolide)
  - d) Local irradiation and testosterone
- 293. A patient with renal cell carcinoma with extension into the IVC (tumor thrombus) is best treated with:**
- a) Radiotherapy
  - b) Chemotherapy
  - c) Thrombolytic therapy
  - d) Surgery
- 294. Which one of the following syndromes is associated with an increased risk of renal cell carcinoma?**
- a. Down syndrome
  - b. Neurofibromatosis type 1
  - c. Osteogenesis imperfect
  - d. Von Hippel-Lindau syndrome
- 295. Prostate cancer is detected most commonly with an associated clinical sign of:**
- a) Urinary frequency
  - b) Rectal bleeding
  - c) Hematuria
  - d) None of the above

- 296. A 62-year-old postal officer develops minimal urinary symptoms. His PSA level is elevated and continues to increase during a 6-month period of observation. The next step in evaluation, if transrectal ultrasound (TRUS) prostate biopsy were positive for adenocarcinoma of prostate, would be:**
- a) Refer to oncologist for chemotherapy
  - b) Metastatic evaluation including CT and bone scans
  - c) Repeat PSA and biopsy
  - d) Evaluation by radiation oncologist
- 297. About testicular malignancies, one statement only is true:**
- a) These are the commonest malignant tumors in males.
  - b) Percutaneous scrotal biopsy should be avoided.
  - c) They are usually resistant to chemotherapy.
  - d) In a seminoma, alfa fetoprotein is elevated.
- 298. Regarding prostatic carcinoma, pick up the wrong statement:**
- a) LHRH (Luteinizing hormone releasing hormone) causes rapid drop of testosterone level within 2-3 days.
  - b) Gleason score is used for its grading.
  - c) T3 means involvement of the seminal vesicles.
  - d) Trans-rectal ultrasound is the best diagnostic modality.
- 299. Palliative treatment of prostatic carcinoma includes the following, EXCEPT:**
- a) Female hormone administration.
  - b) Bilateral subcapsular orchiectomy.
  - c) suprapubic cystostomy
  - d) Radiotherapy
- 300. Correct statements about Wilm's tumor do not include which of the following:**
- a) It usually presents as an asymptomatic abdominal mass.
  - b) Peak incidence is 3-4 years of age.
  - c) The diagnosis is usually confirmed by IVP.
  - d) The long term survival is very poor.
- 301. Necroturia is pathognomonic of:**
- a) TB cystitis.
  - b) Cancer bladder.
  - c) Colovesical fistula.
  - d) Stone bladder
- 302. Regarding hypernephroma, all of the following are true except:**
- a) Is the commonest abdominal malignancy in children.
  - b) Is associated with polycythemia.
  - c) May extend into the renal vein.
  - d) May cause hematuria.
- 303. Regarding carcinoma of the prostate:**
- a) It is usually a squamous cell carcinoma.
  - b) It spreads to the lumbar spine and sacrum.
  - c) Bone metastases are seen as osteolytic lesions.
  - d) Normal PSA level excludes the presence of malignancy.

- 304. Transurethral resection syndrome after endoscopic resection of the prostate occurs because of:**
- a) Air embolism during the procedure.
  - b) Blood loss from postoperative irrigation.
  - c) Absorption of irrigating fluid.
  - d) Relaxation of the urethral sphincter from spinal anesthesia.
- 305. Initial therapy for metastatic prostate cancer is:**
- a) Total prostatectomy (sphincter-preserving).
  - b) Radical prostatectomy.
  - c) Chemotherapy.
  - d) Bilateral orchiectomy.
- 306. Regarding renal cell carcinoma all are true EXCEPT:**
- a) Arises from the distal convoluted tubule of the kidney
  - b) Presents with hematuria, loin pain and a mass in 10% patients
  - c) Can present with polycythemia
  - d) Spread occurs into renal vein and inferior vena cava in 10% patients
- 307. The classical triad of pain, haematuria and flank mass in renal cell carcinoma is found in..... % of cases:**
- a) 5
  - b) 10
  - c) 15
  - d) 40
- 308. Transitional cell carcinoma of the renal pelvis is treated by which of the following:**
- a) Nephrectomy.
  - b) Nephroureterectomy with excision of the ureter to the level of the bladder.
  - c) Nephroureterectomy with excision of the bladder cuff.
  - d) Nephroureterectomy and total cystectomy.
- 309. All are True of Wilm's tumor EXCEPT:**
- a) Common in first 4 years of life.
  - b) Contains only epithelial elements.
  - c) Arises from one or other pole of one kidney.
  - d) Lymphatic spread is uncommon.
- 310. About..... % of Wilm's' tumors are bilateral:**
- a) 3
  - b) 5
  - c) 7
  - d) 10
- 311. While bathing a six months old child, his mother noticed that there is a swelling in the abdomen towards the left side. Examination revealed abdominal mass which showed calcification near left kidney. Most probable diagnosis is:**
- a) Renal cell carcinoma
  - b) Neuroblastoma
  - c) Leukemia.
  - d) Lymphoma
- 312. Bilateral ureteric obstruction occurs in carcinoma of:**
- a) Uterus.
  - b) Cervix
  - c) Ovary.
  - d) Bladder.

- 313. Regarding the treatment of bladder cancers, all are true EXCEPT:**
- a) Superficial tumors are treated by endoscopic resection and a single dose of mitomycin instillation.
  - b) Grade 3 superficial best managed by BCG immunotherapy.
  - c) External beam radiotherapy should be the first line treatment in muscle invasive disease.
  - d) In muscle invasive disease, radical and lymphdenectomy should be the primary treatment of choice.
- 314. Regarding carcinoma in situ of the urinary bladder which of the following statements is TRUE:**
- a) It is poorly differentiated transitional cell carcinoma
  - b) Occurs more commonly in men
  - c) The most effective intravesical therapy is BCG
  - d) All are true.
- 315. Regarding treatment of benign prostatic hyperplasia causing BOO, all are true EXCEPT:**
- a) Alpha adrenergic agents inhibit the contraction of prostatic smooth muscle.
  - b)  $5\alpha$  reductase inhibitors inhibit the conversion of testosterone to DHT.
  - c) Drug therapy results in 20% improvement in symptom scores.
  - d) Retrograde ejaculation in all patients after TURP.
- 316. All the following statements are true in carcinoma of the prostate except:**
- a) It is the most common cancer in men over the age of 65 years.
  - b) Patient who has had a prostatectomy for benign prostatic hypertrophy can develop prostate cancer.
  - c) Carcinoma mostly originates in the peripheral zone of the prostate.
  - d) A PSA  $>4$  ng/ml is diagnostic for prostate cancer.
- 317. What is not true of prostate specific antigen:**
- a) Is a serine protease.
  - b) Liquefies the semen.
  - c) Specific for early prostate cancer
  - d) Normal upper limit is 4 nmol/ml.
- 318. Renal adenocarcinomas:**
- a) Frequently are signaled by gross hematuria
  - b) Are of transitional cell origin.
  - c) Usually are associated with anemia.
  - d) Are extremely radiosensitive
- 319. Carcinoma of the urinary bladder:**
- a) As primarily of squamous cell origin.
  - b) Is preferentially treated by radiation.
  - c) May be treated conservatively by use of intravesical agents even if it invades the bladder muscle.
  - d) May mimic an acute UTI with irritability and hematuria.
- 320. Regarding transitional cell carcinoma of the U.B, all are true except:**
- a) smoking, aniline dyes & cyclophosphamide increase the incidence
  - b) commonly causes microscopic & macroscopic hematuria
  - c) is best diagnosed by cystoscopy & biopsy
  - d) superficial bladder cancers are usually high grade & have a poorer prognosis

- 321. The most important prognostic indicator in patients with renal cell carcinoma is:**
- a) Tumor stage
  - b) The presence of varicocele
  - c) The presence of hypertension
  - d) Gross hematuria.
- 322. The recommended line of management of a renal tumor 6 cm in diameter is:**
- a) nephroureterectomy
  - b) partial nephrectomy
  - c) radical nephrectomy
  - d) radiotherapy
- 323. Features of neuroblastoma include all of the following, EXCEPT:**
- a) Arises from adrenal cortex
  - b) Most cases seen below the age of five years
  - c) Main presentation is abdominal swelling
  - d) Wilm's tumor is an important differential diagnosis
- 324. Regarding tumors of the kidney, all of the following is true Except:**
- a) Benign tumors are rare.
  - b) A nephroblastoma is a grayish white or pinkish white in color.
  - c) A hypernephroma is a big tumor confined to the upper pole of the kidney only.
  - d) Adequate treatment depends on nephrectomy and removal of the perinephric fat
- 325. Regarding carcinoma in situ of the urinary bladder all are true EXCEPT:**
- a) Low tumor recurrence
  - b) It is poorly differentiated transitional cell carcinoma
  - c) Occurs more commonly in men
  - d) The most effective intravesical therapy is BCG
- 326. A young girl presents to her GP with a 2-day history of fever and swelling on the left side of her abdomen. Examination confirms a raised temperature and left loin swelling extending into the mid-line. In addition, microscopic hematuria is found on a urine dipstick test. She is referred to the local hospital where an ultrasound scan of the abdomen and biopsy confirm Wilm's tumor (nephroblastoma). Which one of the following statements regarding Wilm's tumor is true?**
- a) The tumour may be associated with anophthalmia
  - b) 5-year survival in stage IV disease is approximately 65 per cent
  - c) Children most commonly present at the age of 8-10 years
  - d) Some cases are associated with a gene mutation on chromosome 13
- 327. A 69-year-old retired canal engineer who has previously worked in North Africa presents to the urology outpatients department with a 2-month history of intermittent painless hematuria. A cystoscopy is performed showing a sessile mass on the posterior abdominal wall. A biopsy is taken of this mass, which confirms transitional cell carcinomas invading the bladder muscle but no local nodes are involved. A further staging computed tomography scan shows no distant-metastases. According to the TNM classification, the tumor stage in this individual is:**
- a)  $T_{is} N_x M_x$
  - b)  $T_2 N_0 M_0$
  - c)  $T_2 N_1 M_0$
  - d)  $T_3 N_1 M_1$



- 328. A 75-year-old man presents to the urology outpatients clinic with a 6-month history of urinary frequency associated with difficulty initiating micturition, dribbling on reaching the end of his stream and nocturia. A digital rectal examination reveals a hard prostate gland. Core biopsy is performed on the gland and the pathology report indicates presence of a tumor involving most of the right lobe. According to the TNM classification, the tumor stage is:**
- a)  $T_2N_1M_0$                       b)  $T_3N_xM_x$                       c)  $T_3N_1M_0$                       d)  $T_2N_xM_x$
- 329. Which of the following is true regarding the management of a patient with benign prostatic hyperplasia (BPH)?**
- a) All patient with complaints of prostatism should undergo therapy  
 b) Patients with BPH have an increased risk for prostate cancer  
 c) Initial therapy usually consists of non-operative therapy  
 d) Surgery is indicated only in patients who fail medical management
- 330. Regarding prostate specific antigen (PSA), which of the following statements is true?**
- a) PSA is better serum marker for prostate cancer than acid phosphatase  
 b) PSA is produced by both benign and malignant prostate tissue  
 c) as an immune-histochemical marker, determination of the PSA level has able to establish whether a metastatic adenocarcinoma is of a prostatic origin  
 d) all of above
- 331. One hour after a prolonged transurethral resection of the prostate (TURP), a 70 year old man with mild coronary artery disease experiences bradycardia, hypertension, confusion, nausea and headache what is the most likely cause?**
- a) hyperkalemia                      b) hypokalemia                      c) hyponatremia                      d) anemia
- 332. A 60 year old man in good general condition has an asymptomatic prostate nodule. His PSA level is 9 ng/ml, biopsy confirms adenocarcinoma (Gleason iii + iii) on one side bone scanning does not reveal any evidence of metastatic disease which of the following therapies is appropriate?**
- a) transurethral prostatic resection                      c) orchidectomy  
 b) radical prostatectomy                      d) Diethylstilbestrol
- 333. An asymptomatic 76 year old man has a hard irregular prostate an elevated acid phosphatase level, a PSA level of 53 ng/ml and multi-osteoblastic lesions in the lumbosacral spine biopsy of the prostate reveals a moderately differentiated adenocarcinoma, which of the following therapies is indicated?**
- a) Transurethral prostatic resection                      c) Hormonal therapy  
 b) Radical prostatectomy                      d) Radiational therapy
- 334. Localized prostatic cancer is best treated by:**
- a) Brachytherapy (radiotherapy).                      c) Orchidectomy.  
 b) Hormonal treatment.                      d) Estrogen.



- 335. A 42-year-old man presents with cancer of the left testis. To exclude lymphatic metastasis, which is the site that should be initially examined?**
- a) Vertical chain of inguinal glands
  - b) Horizontal chain of inguinal glands
  - c) Retro-rectal glands
  - d) Para-aortic gland
- 336. All the following drugs may be used for treatment of prostatic cancer except:**
- a) Ethyl estradiol.
  - b) Androgens.
  - c) Luteinizing hormone release hormone.
  - d) Anti-androgens
- 337. The recommended age to operate for a patient with an undescended testis is:**
- a) 2 months.
  - b) 2 years
  - c) 8 years.
  - d) At puberty.
- 338. The indications for prostatectomy in benign prostatic hyperplasia include all, except:**
- a) Profuse bleeding.
  - b) Diverticulum formation.
  - c) Stone formation.
  - d) Residual urine more than 200 c.c.
- 339. The most common clinical presentation in a patient with unilateral renal artery stenosis is:**
- a) Hypertension.
  - b) Polyuria.
  - c) Hematuria.
  - d) Peripheral edema.
- 340. Which of the following is false?**
- a) If 30% of renal functions is lost, renal failure becomes evident by blood results.
  - b) In HTN and renal artery stenosis, the plasma flow is impaired, causing renal failure.
  - c) In GN, loss of glomeruli causes renal failure.
  - d) Cytological examination of urine is more likely to be abnormal in poorly differentiated
- 341. Each adrenal gland is supplied by a single adrenal artery and drained by multiple adrenal vein branches.**
- a) True
  - b) False
- 342. The left renal vein crosses the abdominal aorta:**
- a) Anteriorly; just above the superior mesenteric artery
  - b) Anteriorly just below the superior mesenteric artery
  - c) Posteriorly, at the level of the superior mesenteric artery
  - d) Anteriorly, just below the inferior mesenteric artery
- 343. A 46-year-old man is on a waiting list to secure a renal transplant. The genetic locus of transplant antigens in humans is known as which?**
- a) Rhesus (Rh)
  - b) Ig (Immunoglobulin) A and IgM
  - c) Human leukocyte antigen (HLA)
  - d) Hepatitis B surface antigen (HBsAg)

- 344. A 32-year-old female has chronic pyelonephritis with chronic renal failure. She is scheduled to have a renal transplantation. The donor kidney will be obtained from her brother-in-law, and left laparoscopic nephrectomy is planned. The donor kidney operation will be performed in a separate operating room under general anesthesia, where will the donor kidney be placed?**
- a) In the groin
  - b) Right iliac fossa
  - c) At site of bifurcation of aorta
  - d) Into the portal system
- 345. With reference to the donor kidney, which of the following statements is TRUE?**
- a) The left side is preferred, because the left renal artery is larger than that on the right.
  - b) The left renal vein passes posterior to the aorta.
  - c) Renal arteries are end arteries.
  - d) Anomalous arteries are a contraindication for elective use in transplantation.
- 346. What is the blood supply of the upper ureter?**
- a) Aorta and renal arteries.
  - b) Lumbar arteries.
  - c) Internal iliac artery.
  - d) External iliac artery
- 347. The testicular artery is a branch of:**
- a) Aorta.
  - b) Renal artery.
  - c) Common iliac artery.
  - d) External iliac artery.
- 348. What is the initial management of priapism?**
- a) Pain-relieving drugs and hydration.
  - b) Beta blockers.
  - c) Alpha blockers.
  - d) Placement of 16-18 g IV catheter into the corpus cavernosum.
- 349. Nocturia is:**
- a) Passage of necrotic tissue in urine
  - b) Sudden severe desire of micturition.
  - c) Passage of urine during sleep
  - d) None of the above.
- 350. Reno vascular hypertension is most often due to:**
- a) Atherosclerosis.
  - b) Diabetic angiopathy.
  - c) Arterial, embolism.
  - d) Autoimmune arteritis.
- 351. Isotope renal imaging is superior to other investigations in:**
- a) Determining the size of the kidneys more accurate,
  - b) Diagnosis of obstruction
  - c) Providing the renal function of each kidney
  - d) All of the above.
- 352. In patients with retroperitoneal fibrosis which of the following structures is involved first:**
- a) Aorta
  - b) Vena cava
  - c) Ureter
  - d) Duodenum.

- 353. Which of the following anatomical statements is untrue?**
- a) The bladder is lined by transitional epithelium.
  - b) Hypertrophy of the detrusor muscle results in bladder trabeculation.
  - c) The epithelium of the trigone extends into the lower ends of ureters and proximal urethra.
  - d) The internal sphincter prevents urinary incontinence.
- 354. Strangury occurs when stone irritates:**
- a) Bladder
  - b) Trigone
  - c) Internal urethral meatus
  - d) Ureterovesical junction
- 355. Ureterosigmoidostomy leads to which of the following condition:**
- a) Hyperchloremic alkalosis.
  - b) Metabolic acidosis.
  - c) Hypochloremic acidosis.
  - d) Hyperchloremic acidosis.
- 356. Regarding anatomy of the prostate all are true except?**
- a) The prostate is anatomically divided into a peripheral, a central zone and transitional zone.
  - b) The glands of the peripheral zone are lined by transitional epithelium.
  - c) Benign prostatic hypertrophy occurs in transitional zone.
  - d) Most carcinoma arise in peripheral zone.
- 357. Foley's catheter is numbered:**
- a) According to radius.
  - b) According to circumference
  - c) According to inner diameter.
  - d) According to outer diameter.
- 358. The distal urethral sphincter is supplied by:**
- a) S<sub>1</sub> - S<sub>2</sub>
  - b) S<sub>2</sub> - S<sub>3</sub>
  - c) S<sub>3</sub> - S<sub>4</sub>
  - d) S<sub>2</sub> - S<sub>4</sub>
- 359. Regarding the use of non-ionic contrast agent for IVU:**
- a) reduce the incidence of the side effect
  - b) improve contrast density in pyelography
  - c) reduce the incidence of anaphylactic shock
  - d) all of the above
- 360. In its course from the kidney to the bladder, the ureter runs on the top of which muscle?**
- a) Quadratus lumborum
  - b) Transversus abdominus
  - c) Iliacus
  - d) Psoas
- 361. The renal arteries arise at intervertebral level:**
- a) T<sub>12</sub>/L<sub>1</sub>
  - b) L<sub>1</sub>/L<sub>2</sub>
  - c) L<sub>2</sub>/L<sub>3</sub>
  - d) L<sub>3</sub>/L<sub>4</sub>
- 362. In a non-exercising individual, the proportion of cardiac output supplied to the kidneys is approximately:**
- a) 10 percent
  - b) 15 percent
  - c) 20 percent
  - d) 25 percent

- 363.** A 40-year-old female lawyer is referred to the urology outpatient clinic with a history of multiple urinary tract infections over the preceding 10 years, which have required increasingly longer courses of antibiotics to treat. She also reports feeling more lethargic of late, despite leading a relatively active lifestyle. An ultrasound scan of this patient's renal tract indicates chronic pyelonephritis. Which of the following sonographic features would be diagnostic of her condition?
- a) Absent kidney
  - b) Atrophic kidney
  - c) Hydronephrotic kidney
  - d) Multiple renal stones
- 364.** A 29-year-old railway worker is admitted following crush injury to his left leg. He is talking in full sentences and complaining of pain in his leg. Further examination reveals a blood pressure of 90/58 mmHg, pulse of 99 beats/min, and a swollen and bruised left leg. Intravenous access is gained, routine blood samples are taken and fluid resuscitation is commenced. In addition, the patient is catheterized for monitoring purposes and passes only a small volume of red-brown urine, which, on microscopy, is confirmed to contain myoglobin. The admitting physician makes a working diagnosis of rhabdomyolysis. Which one of the following metabolic abnormalities is not associated with this condition?
- a) Hypocalcemia
  - b) Hyperkalemia
  - c) Hypernatremia
  - d) Hyperphosphatemia
- 365.** A 45-year-old man presents to the emergency department with a severe headache that started suddenly following a weight-training session. He is treated appropriately and further examination some days later reveals a palpable lump in the left loin. An ultrasound scan confirms multiple kidney cysts and hepatomegaly, suggestive of adult polycystic kidney disease. On further questioning, he reports that his father died of brain hemorrhage at the age of 35. Adult polycystic kidney disease is most commonly inherited by which one of the following modalities.
- a) Autosomal recessive gene chromosome 16
  - b) Autosomal dominant gene chromosome 16
  - c) Autosomal recessive gene chromosome 4
  - d) Autosomal dominant gene chromosome 4
- 366.** A 65-year-old hypertensive man attends the preoperative assessment clinic 7 days before he is due to undergo a transurethral resection of prostate for benign prostatic hypertrophy. He is currently taking furosemide for blood pressure control but no other regular medication. A routine set of bloods is taken, the results of which show a potassium level of 2.7mmol/L. On the basis of this an electrocardiogram is requested. All of the following electrocardiographic changes are characteristic of hypokalemia, except:
- a) Left bundle branch block
  - b) Flattened T waves
  - c) ST segment depression
  - d) Prolonged QT interval

- 367. Which of the following vessels contributes to the blood supply of the prostate gland?**
- a) Superior mesenteric artery
  - b) Inferior mesenteric artery
  - c) Internal iliac artery
  - d) External iliac artery
- 368. Which of the following statements are true?**
- a) Pain of renal origin is a deep-seated, sickening ache.
  - b) Pain from a ureteric stone is colicky and the patient rolls around in agony.
  - c) Pain from the urinary bladder is a suprapubic discomfort.
  - d) All of the above.
- 369. Which of the following statements are false?**
- a) Anuria is defined as complete absence of urine production.
  - b) Oliguria is defined as a urinary output of < 300 ml in 24 h.
  - c) All patients with renal failure will require renal replacement therapy.
  - d) Indwelling stents can be used to relieve ureteric obstruction.
- 370. Which of the following statements about urinary fistulae is false?**
- a) A combined ureterovaginal fistula may be present in 10 % of patients.
  - b) Examination under anaesthesia, intravenous urogram (IVU) and cystoscopy are necessary to evaluate them.
  - c) When there are multiple tracts, the causes may be radiation, malignancy or sepsis.
  - d) Conservative management by catheter drainage of the bladder is usually successful.
- 371. Which of the following is true regarding circumcision?**
- a) it is protective against penile cancer
  - b) it may increase HIV transmission
  - c) it decreases penile sensation
  - d) the fascia of buck must be closed before skin closure
- 372. In a patient with extensive Fournier's gangrene involving the scrotum, the testis:**
- a) Are usually involved and must be resected
  - b) Are usually involved but can be watched for 24-48 hours before deciding to perform an orchiectomy
  - c) Are usually not involved but should be removed due to the potential for postoperative pain
  - d) Are usually not involved and can be transposed to the soft tissue of the thigh
- 373. As regard to embryology of testis all are correct. EXCEPT:**
- a) Develops from the genital ridge.
  - b) Is embryologically an intraperitoneal structure.
  - c) Derives its blood supply directly from aorta.
  - d) Torsion only occurs on top of anomalous testis.
- 374. Best treatment of retractile testis is:**
- a) Reassurance.
  - b) Medical treatment.
  - c) Orchiopexy.
  - d) Orchiectomy.

- 375. The following statements about ectopic testis are true except that it:**
- a) Is probably due to rupture of the scrotal tail of the gubernaculum.
  - b) May lie in the groin or pubic region.
  - c) Does not develop normally.
  - d) Has a normal long spermatic cord.
- 376. Regarding choriocarcinoma all are correct except:**
- a) It is a subtype of teratoma.
  - b) Rarely gives lung metastasis.
  - c) Secretes HCG in large amounts.
  - d) All are true
- 377. Precocious puberty is a character of:**
- a) Sertoli cell tumor.
  - b) Leydig cell tumor.
  - c) Seminoma.
  - d) Teratoma.
- 378. The most malignant testicular tumor is:**
- a) Seminoma
  - b) Choriocarcinoma
  - c) Teratocarcinoma
  - d) Teratoma
- 379. What is not true of interstitial cell tumors of testes?**
- a) Leydig cell tumor masculinizes.
  - b) Sertoli cell tumor feminizes.
  - c) Prepubertal tumors are from sertoli cell.
  - d) Sertoli cell tumors are benign and orchidectomy is curative.
- 380. Which of the following has earlier pulmonary metastases?**
- a) Seminoma.
  - b) Teratoma.
  - c) Choriocarcinoma.
  - d) Embryonal cell carcinoma.
- 381. Size fluctuation is a character of:**
- a) Infantile hydrocele.
  - b) Congenital hydrocele.
  - c) Both, A and B.
  - d) None of the above.
- 382. Traction test is diagnostic of:**
- a) Primary hydrocele.
  - b) Epididymal cyst.
  - c) Infantile hydrocele.
  - d) Encysted hydrocele of the cord.
- 383. Which of the following is confirmatory of encysted hydrocele of cord?**
- a) No impulse on cough.
  - b) Positive fluctuation and translucency.
  - c) Positive traction test.
  - d) You can get above the swelling.
- 384. Which of the following is false about inguinoscrotal swellings in children?**
- a) A hydrocele is a patent processus vaginalis as in a hernia.
  - b) Hernia can be direct or indirect.
  - c) In incarcerated hernia, reduction should be attempted by taxis followed by operation after 24 h later.
  - d) Hernia is always indirect.
- 385. All of the following are true about undescended testis except:**
- a) Orchiopexy in a subdartol pouch is the treatment of choice.
  - b) The operation is recommended at the age of 2 years.
  - c) Laparoscopy is the gold standard procedure for an intra-abdominal testis.
  - d) Orchiopexy reduces the chance of malignancy.

- 386. Which of the following is false about undescended testis?**
- a) A testis absent from the scrotum after 3 months of birth is unlikely to descend.
  - b) An incompletely descended testis tends to atrophy at puberty.
  - c) Early orchiopexy can preserve function.
  - d) Orchiopexy reduces the chance of developing of testicular tumors.
- 387. All of the following are true about testicular torsion except:**
- a) It is most common between 10-25 years old.
  - b) Inversion of the testis and transverse lie are the commonest causes.
  - c) Testicular gangrene occurs after 24-48 h.
  - d) Emergency surgery should be done as soon as possible.
- 388. All of the following are true about the treatment of testicular tumors except:**
- a) Tumor markers are measured and chest X-ray carried out.
  - b) Secondaries from teratoma are always treated by surgery.
  - c) Initial surgical treatment is orchidectomy through the groin.
  - d) Seminomas are radiosensitive.
- 389. A full term neonate is found to have a swollen right scrotum. Gentle persistent pressure easily reduces an air filled structure back into the abdomen. The condition recurs promptly as the infant begins to cry. This**
- a) Mandates immediate surgical repair
  - b) Is the same defect as a communicating hydrocele
  - c) Should have a tension-free mesh repair
  - d) Should prompt exploration of the left groin
- 390. During evaluation of the cause of varicocele in a 36-year-old man, attention is directed to the method of drainage of the left testicular vein, which usually enters which of the following?**
- a) Left adrenal vein
  - b) Left renal vein
  - c) Left inferior mesenteric vein
  - d) Left inferior epigastric vein
- 391. A 42-year-old male presents with a solid swelling in the left testis of 2-month duration. Biopsy reveals this to be a Leydig cell tumor. The function of the Leydig cell is to produce what?**
- a) Follicle-stimulating hormone (FSH)
  - b) Luteinizing hormone (LH)
  - c) Testosterone
  - d) Progesterone
- 392. Regarding pyocele of the tunica, all are true except:**
- a) The scrotum shows negative transillumination.
  - b) Can be a postoperative complication
  - c) Treatment is by excision-eversion of the tunica
  - d) Can be a complication of tapping for a vaginal hydrocele

- 393. A 45-year-old male presents with a 3-week history of a tumor in the scrotum. The patient has a known history of diabetes controlled by diet. There is minimal discomfort. On examination, the lesion is located posteriorly and does not transilluminate to light. Both testes are clinically normal. What is the most likely diagnosis?**
- a) Spermatocoele
  - b) Adenomatoid lesion of the epididymis
  - c) Varicocele
  - d) Torsion of a testicular appendiceal cyst
- 394. During physical examination for the purpose of life insurance, a 38-year-old man is found to have a left inguinal mass. The right testis is palpated in the scrotum and is of normal size, but a left testis cannot be palpated in the scrotum. Ultrasonography shows that the inguinal mass is consistent with a cryptorchid testis. Which of the following approaches is most appropriate to deal with this patient's testicular abnormality?**
- a) Remove only the cryptorchid testis
  - b) Perform orchidopexy.
  - c) Remove both testes
  - d) Commence testosterone therapy
- 395. Regarding testicular tumors, all of the following are true except:**
- a) Treatment of stage II seminoma is by radiotherapy that extends above the diaphragm.
  - b) Microscopically, teratomas may show lymphocytic infiltration
  - c) Teratomas represent 32%
  - d) Sertoli cell tumors can cause gynecomastia
- 396. In undescended testes, orchidopexy causes one of the following:**
- a) Improves fertility.
  - b) Improves the hormonal function of the testis.
  - c) Totally eliminates the risk of malignant transformation.
  - d) Increases the risk of testicular torsion.
- 397. Torsion of testis is characterized by all EXCEPT:**
- a) Severe and sudden pain.
  - b) Edematous scrotum.
  - c) Mimics strangulated hernia and orchitis.
  - d) Relief of pain with suspensory bandage.
- 398. The treatment for a testicular torsion of 10 days duration is:**
- a) Orchiectomy.
  - b) Exploration only.
  - c) Orchiectomy & fixing up of other testis.
  - d) None of the above.
- 399. Barley water fluid is characteristic of:**
- a) Hydrocele.
  - b) Spermatocoele.
  - c) Encysted hydrocele of cord.
  - d) None of the above.
- 400. Epididymo-orchitis follows infection of:**
- a) Urethra.
  - b) Prostate.
  - c) Seminal vesicles.
  - d) All of the above.



- 401. A 19-year-old man develops sudden excruciating pain in his right testicle. There is no history of trauma. On examination, he is afebrile and there is a small, very tender lump on the superior pole of the right testicle. The testicle appears to be in the normal position**  
**Options:**  
a) Indirect inguinal hernia. c) Seminoma.  
b) Teratoma. d) Torsion of hydatid of Morgagni.
- 402. Seminoma is characterized by all the following EXCEPT:**  
a) It is the most common type of testicular cancer  
b) Metastases to liver and bone are frequently found  
c) It responds to radiation.  
d) Common presentation is that of a painless lump that does not transilluminate.
- 403. Which is true regarding cysts of the epididymis?**  
a) Contains barley-water-like fluid  
b) It covers the testis completely.  
c) Are tense cysts.  
d) Are situated in front the body of the testis
- 404. A 2-year old boy is found to be lacking a right testicle in his scrotum. The recommended management would be to:**  
a) Follow the patient till puberty.  
b) Follow the patient till he reaches 6 years.  
c) Administer gonadotrophins as soon as possible  
d) Perform an orchiopexy as soon as possible.
- 405. It is due to obstruction of one of the vasa efferentia of the epididymis nearly always lies on the head of the epididymis, on transillumination it is dim. This is the description of:**  
a) Encysted hydrocele of the cord. c) Epooophron.  
b) Spermatocele. d) Parooophron.
- 406. A 42 year old male presents with a solid swelling in the left testis of 2 cm duration, biopsy reveals this to be a Leydig cell tumor, the function of the Leydig cell is to produce:**  
a) Luteinizing hormone LH c) Inhibin  
b) Follicle stimulating hormone FSH d) Testosterone
- 407. Orchiopexy should be carried out before the age of one year because:**  
a) Surgery is easier at young age  
b) There is decrease retractability of cremaster muscle.  
c) After that age there is histological evidence of testicular damage.  
d) There is complete dissociation between testis and epididymis.

- 408. A 69-year-old diabetic man presents to the acute surgery unit with a 5-day history of mild dysuria, frequency and feeling generally unwell. On examination, he is found to be pyrexial and tachycardic. A genital examination reveals both the penis and the scrotum to be swollen, red and tender to touch, with erythema also extending into the groin bilaterally. Of note, the examining surgeon believes that there is palpable crepitus in the perineum. Routine bloods and cultures are taken (which later grow both aerobic and anaerobic organisms), and fluid resuscitation and broad-spectrum antibiotics are commenced. Following further discussion with a urologist, he is taken promptly into the operating theatre for definitive management. The likely diagnosis in this patient is:**
- a) Fournier's gangrene
  - b) Epididymo-orchitis
  - c) Testicular torsion
  - d) Prostatitis
- 409. An 11 year old boy complains of scrotal swelling and pain his parents note that the size of his scrotum seems to fluctuate what is the probable diagnosis?**
- a) Spermatocele
  - b) Chronic epididymitis
  - c) Acute or subacute epididymitis
  - d) Hydrocele
- 410. Which of the following are not treatments or characteristics of non-seminomatous germ cell tumours of the testis?**
- a) Radiation therapy
  - b) Retroperitoneal lymph node dissection
  - c) Elevated alpha fetoprotein (AFP)
  - d) Chemotherapy for advanced disease
- 411. A 32 year old man arrives at the emergency department with an exquisitely painful and woody feeling penile erection of 18 hours duration, which of the following is not a therapeutic option?**
- a) aspiration of blood from the corpora cavernosa
  - b) irrigation of the corpora cavernosa with a dilute solution of papaverine
  - c) creation of communication between the penis and a corporal body with a biopsy needle or scalpel blade
  - d) side to side anastomosis between the corpus spongiosum and corpus cavernosum
- 412. Evaluation of renal functions before IVU is best done by measuring:**
- a) Urine specific gravity.
  - b) Urea level.
  - c) Creatinine level.
  - d) None of the above.
- 413. Tear drop sign is seen in:**
- a) Under screen in plain x-ray in ruptured kidney.
  - b) In IVP in ruptured kidney.
  - c) In U/S in ruptured kidney.
  - d) None of the above.
- 414. An absolute indication of surgical treatment of renal injury is all except:**
- a) 20% devitalized renal parenchyma.
  - b) Major urinary extravasation.
  - c) Vascular injury.
  - d) Expanding perineal hematoma.
- 415. The stone causing strangury must irritate:**
- a) Ureter.
  - b) Trigone.
  - c) Pelvioureteric junction.
  - d) Ureteric orifice.

- 416. Carcinoma of bladder all are true EXCEPT:**
- a) Is usually very painful even in early stages.
  - b) Is usually associated with hematuria.
  - c) Most often occur in the vault of the bladder.
  - d) Is best diagnosed by cystoscopy.
- 417. What is not true of drug treatment of BPH:**
- a) Alfa adrenergic inhibition reduces bladder outlet obstruction
  - b) 5 Alpha reductase inhibitors decrease level of dihydrotestosterone
  - c) These drugs are expensive rather than effective
  - d) All are true
- 418. About acute renal failure, all are true, except:**
- a) Pre-renal failure can result from any cause leading to sudden decrease in renal blood flow.
  - b) Pre-renal failure may lead to acute tubular necrosis and renal failure.
  - c) Liver cell failure may lead to renal failure.
  - d) Benign prostatic hyperplasia cannot cause acute renal failure.
- 419. In unilateral acute pyelitis, the following statements are correct except that it:**
- a) Occurs chiefly in females.
  - b) Particularly common on the right side
  - c) Causes pain in the loin with frequency and dysuria.
  - d) May produce severe toxemia with fever, rigor, headache and malaise.
- 420. In tuberculous cystitis, the following statements are true except that it:**
- a) Is usually due to direct spread from the prostate, seminal vesicles or uterine adnexa.
  - b) Always commences in the trigone.
  - c) May lead to severe contraction of the bladder.
  - d) May require intestinocystoplasty. (Ileo-cystoplasty)
- 421. The following statement about senile enlargement of the prostate are correct except that it:**
- a) Rarely affects Negroes and Mongolians.
  - b) Always starts in the submucous glands of the lateral and middle lobes.
  - c) May affect the anterior and posterior lobes.
  - d) Takes the form of an adenoma with three capsules.
- 422. Among the following complications of senile enlargement of the prostate the most serious one is:**
- a) Acute retention.
  - b) Chronic retention.
  - c) Stone formation.
  - d) Hematuria.
- 423. Which of the following is true about ureteric stones?**
- a) The majority pass spontaneously.
  - b) If the obstruction persists after 6 weeks, the stone should be removed.
  - c) Stones are commonly arrested at 2 sites of ureteric narrowing.
  - d) Severe renal pain subsiding after a day or 2 days suggests that the stone has passed.

- 424. Assessment in cancer prostate must include all of the following except:**  
a) TRUS.                      b) MRI.                      c) Bone scan.                      d) IVU.
- 425. Which of the following is false about the treatment of cancer prostate?**  
a) Radical prostatectomy is only suitable for T1 and T2 disease (early cancer).  
b) Radical external beam radiotherapy is an alternative to radical prostatectomy.  
c) T3 patients are treated by radical radiotherapy and/or androgen ablation.  
d) Incidentally diagnosed disease is treated by radical prostatectomy.
- 426. Cause of urethral strictures include all of the following except:**  
a) Inflammation and infection.                      c) Trauma.  
b) Postoperative.                      d) All of the above
- 427. A healthy appearing, 8-year-old boy is evaluated for an abdominal mass, felt by his mother during a bath. What is the most likely diagnosis?**  
a) Neuroblastoma                      c) Renal cell carcinoma  
b) Rhabdomyosarcoma                      d) Wilms' tumor
- 428. Testis not found by laparoscopy may be due to:**  
a) Testicular agenesis.                      c) Fetal testicular torsion.  
b) Maldescended testis.                      d) All of the above.
- 429. The following statements about spermatocele are correct except that it:**  
a) Is a retention cyst in the head of the epididymis  
b) Usually affects elderly males  
c) Occurs as a painless globular swelling fixed to the upper pole of the testis  
d) Is usually opaque on transillumination
- 430. All of the following are true about acute scrotal pain except:**  
a) Acute scrotal pain can be from torsion of testis or acute epididymitis.  
b) Pain of testicular torsion may originate in the groin or suprapubic area.  
c) Doppler should always be done in cases of suspected testicular torsion.  
d) Incarcerated hernia may cause similar symptoms.
- 431. The hazards of incompletely descended testis include except:**  
a) Sterility in bilateral cases.                      c) Torsion.  
b) Trauma.                      d) all of the above
- 432. Which of the following is an incorrect statement about the anatomic relationship between the ureter and adjacent structures?**  
a) The ureter crosses the sacroiliac joints posterior to the iliac vessels.(anterior to iliac vessels)  
b) In the male, before entering the bladder the ureters cross posteriorly to the vasa deferentia.  
c) The ureter and the gonadal vein cross anterior to the psoas muscle and can often be found together.  
d) Major blood supply to the ureter arises from medial to lateral in the upper half of the ureter and from lateral to medial in the lower half of the ureter.

- 433. What is the first step in managing an intraoperatively discovered renal gunshot wound with large peri-renal hematoma and intraoperative one-shot IVP showing urinary extravasation?**
- a) Immediate nephrectomy
  - b) Immediate renorrhaphy
  - c) Isolation of the renal vein and artery with silicone loops
  - d) Opening of Gerota's fascia and inspection of the kidney for injury
- 434. Improved survival after lymphadenectomy for testicular tumors occurs after which of the following?**
- a) Seminoma
  - b) Sertoli cell tumor
  - c) Embryonal cell carcinoma
  - d) Leydig cell tumor
- 435. A 32-year-old athletic long distance runner complains of severe pain in the left flank. There is no radiation of the pain to the groin. Examination reveals mild tenderness in the left flank. Investigations confirm the presence of renal calculi. The stone is most likely which of the following?**
- a) Cystine
  - b) Calcium oxalate
  - c) Uric acid
  - d) Calcium phosphate
- 436. What is the most common urinary diversion procedure that is performed following total cystectomy?**
- a) Rectal bladder.
  - b) Cutaneous (ureterostomy).
  - c) Ileal conduit.
  - d) None of the above.
- 437. Which histologic-proven renal cell carcinoma has worst prognosis?**
- a) Chromophobe CA.
  - b) Papillary CA.
  - c) Clear cell CA.
  - d) All of the above
- 438. About intravenous urography (IVU), all the following statements are true, except:**
- a) It is not suitable for patients who are in renal failure.
  - b) It provides morphological and functional information about the kidney.
  - c) It is the imaging of choice for diagnosis of suspected renal tumors.
  - d) Emergency IVU can be done for patients in acute renal colic
- 439. Which of the following is not true for carcinoma of the penis?**
- a) Affects age group from 50-70 years.
  - b) Inguinal lymph node dissection is not a part of the treatment.
  - c) Chronic balanoposthitis could be a predisposing factor.
  - d) It affects the coronal sulcus.
- 440. In senile enlargement of the prostate, the urinary symptoms are due to the following causes EXCEPT:**
- a) Elongation and angulation of the posterior urethra.
  - b) Narrowing of the urethral lumen.
  - c) Bladder neck obstruction by the ball-valve action of the middle lobe.
  - d) Hydrostatic compression of the lateral lobes against each other.

- 441. A 10 years old boy, involved in a road traffic accident and diagnosed to have fracture pelvis he is unable to pass urine because of:**
- a) Penile urethra rupture.
  - b) Posterior urethra rupture.
  - c) Rupture of membranous urethra.
  - d) Intra peritoneal rupture bladder
- 442. In a 20 years female patient, gross hematuria is most likely to be due to:**
- a) Cystitis.
  - b) Renal calculi,
  - c) Hemophilia.
  - d) Polycystic kidney.
- 443. Regarding Wilms' tumor, all of the following are true except:**
- a) It is capsulated.
  - b) There is early infiltration of the renal pelvis.
  - c) Sometimes is associated with hemi-hypertrophy.
  - d) Postoperative Actinomycin D, Vincristine and Adriamycin are required if there is no residual tumor.
- 444. Early and complete loss of testicular sensation is characteristic of:**
- a) Tuberculosis.
  - b) Leprosy.
  - c) Tumor.
  - d) Syphilis.
- 445. All of the following is true regarding hernias, hydrocele and undescended testis EXCEPT:**
- a) Ectopic testes are more common than undescended testis.
  - b) Congenital hernia and congenital hydrocele are caused by a patent processus vaginalis.
  - c) There is a risk of developing infertility even after orchidopexy.
  - d) There is a risk of testicular tumors developing in a child with undescended testis.
- 446. Higher serum titer of FSH have been observed in many patients with:**
- a) Teratoma
  - b) Seminoma
  - c) Embryonal carcinoma
  - d) Leydig cell tumors
- 447. Regarding the management of blunt renal trauma which of the following is true?**
- a) Contusions best treated by observation until the hematuria subsides.
  - b) Parenchymal lacerations secondary to blunt trauma require routine exploration because of the risk for secondary hemorrhage or infection.
  - c) Non expanding retroperitoneal flank hematomas encountered during laparotomy should be explored.
  - d) On exploring perinephric hematoma, the fascia of Gerota is opened first to facilitate control of the vessels.
- 448. Which of the following statements regarding treatment of bilateral renal stones are TRUE:**
- a) Usually the kidney with better function is treated first
  - b) If there is pyonephrosis in one kidney, this must be treated by percutaneous nephrostomy
  - c) In case of bilateral silent stag horn stones in elderly, the patient should be managed conservatively
  - d) All of the above

- 449. For which of the following types of renal calculi change of urinary PH does not affect the rate of growth of the stone:**
- a) Cystine.
  - b) Uri acid.
  - c) Ammonium magnesium phosphate (struvite)
  - d) Calcium oxalate.
  - e) Carbonate apatite
- 450. All are the complications of percutaneous nephrolithotomy EXCEPT:**
- a) Hemorrhage from the ruptured renal parenchyma
  - b) Perforation of collecting system with extravasation of irrigation solution
  - c) Perforation of the colon
  - d) None of the above
- 451. Renal cell carcinoma can be associated with which of the following:**
- a) Polycythemia
  - b) Nephrotic syndrome
  - c) Hypercalcemia
  - d) All of the above.
- 452. Contraindications to Periurethral litholapaxy include:**
- a) Tight urethral stricture
  - b) Contracted bladder
  - c) Patient's age below 10 years
  - d) All of the above
- 453. Which of the following carcinogens are important in bladder cancer?**
- a) Chlorinated hydrocarbons.
  - b) Benzedine.
  - c) Beta-naphthylamine.
  - d) All of the above.
- 454. Hexagonal shape characterizes crystals of:**
- a) Cysteine
  - b) Uric acid.
  - c) Oxalate
  - d) Phosphate.
- 455. Which of the following statements regarding development of ureter and renal pelvis is TRUE:**
- a) Derived from metanephros.
  - b) Derived from mesonephric (Wolfian) duct
  - c) Derived from primitive pronephros
  - d) None of the above.
- 456. Liver cyst in polycystic kidney occurs in:**
- a) 10%
  - b) 58%.
  - c) 18%.
  - d) 85%.
- 457. BPH arises from which glands:**
- a) Periurethral.
  - b) Prostatic glands proper.
  - c) Submucous.
  - d) All of the above.
- 458. Intravesical therapy in bladder cancer consists of:**
- a) Antitumor antibiotics
  - b) Thiotepa.
  - c) BCG.
  - d) All of the above.
- 459. The most common cause of vesico-vaginal fistula is**
- a) Malignancy
  - b) Congenital cloacal defects
  - c) Iatrogenic trauma
  - d) Obstructed labor
- 460. Ligation of testicular artery will result in testicular atrophy in:**
- a) 100% of cases
  - b) 75% of cases
  - c) 15% of case
  - d) 0% of cases



- 461. Which is true regarding acute pyelonephritis?**
- a) The infection is confined to the renal pelvis.
  - b) There should be a search for congenital abnormality.
  - c) In the early stage the urine has many pus cells and few bacteria
  - d) Treatment should be prolonged
- 462. A 34-year-old father of five children attends the family planning clinic for advice on birth control. After discussing the various options available, he requests a vasectomy. Which of the following structures lies most proximal to the vas deferens (ductus deferens)?**
- a) Superficial scrotal fascia (Dartos fascia)
  - b) Internal spermatic fascia
  - c) Tunica vaginalis
  - d) External spermatic fascia
- 463. A 40-year-old office executive presents with a 4-hour history of excruciating left loin pain radiating to the groin. The pain has been constant with short spells of more severe pain every 30-40 minutes. He informs you that his father has gout and has had similar pains in the past. A KUB and IVU confirm the presence of a radio opaque stone in the left ureter, measuring approximately 4 mm in diameter. What type of stone is most likely to be present in this patient?**
- a) Xanthine
  - b) Calcium oxalate
  - c) Uric acid
  - d) Cysteine
- 464. A 30-year-old housewife presents to her GP with a week-long history of dysuria, frequency and extremely strong smelling urine. A urine dipstick test confirms the presence of leucocytes and nitrites. She has previously suffered from multiple urinary tract infections that have resolved with a short course of antibiotics. To rule out further complications of the urinary tract, an ultrasound scan is performed, which suggests the presence of a large calculus within the left pelvicalyceal system. Which one of the following microorganisms is not associated with the formation of such stones?**
- a) Mycoplasma
  - b) Klebsiella
  - c) Mycobacteria
  - d) Pseudomonas
- 465. A 28-year-old student presents with a 2-day history of dysuria and mucopurulent urethral discharge. He reports recently having had unprotected sex while on holiday in the Mediterranean. A urethral discharge smear inoculated into Thayer Martin medium confirms infection with *Neisseria gonorrhoeae* and appropriate antibiotics are started. What type of organism is *N. gonorrhoeae*?**
- a) Coagulase-positive Gram-positive coccus
  - b) Glucose-fermenting Gram-negative coccus
  - c) Lactose-fermenting Gram-negative rod
  - d) Lactose-non-fermenting Gram-negative rod



- 466. Which one of the following statements regarding renal cell carcinoma is true?**
- a) Women are more commonly affected than men
  - b) Approximately 2 per cent of cases are familial
  - c) Renal cell carcinoma accounts for around 3 per cent of adult cancers
  - d) Metastases are poorly visualized by standard imaging techniques.
- 467. Which one of the following statements regarding testicular tumours is true?**
- a) Seminomas are more common than non-seminomatous germ cell tumours
  - b) Teratomas commonly present between the ages of 30 and 50 years
  - c) Seminomas secrete a-fetoprotein and 13-human chorionic gonadotrophin
  - d) 5-year survival for seminomas is approximately 90 per cent
- 468. A 55-year-old solicitor presents to the urology outpatients department with a 6-month history of abnormally angulated penis on erection. This has made sexual intercourse particularly difficult and painful and has been affecting his relationship with his wife. After further questioning, a diagnosis of Peyronie's disease is offered. All of the following statements regarding Peyronie's disease are true, except:**
- a) It is a connective tissue disorder of unknown origin
  - b) Around 1 percent of men are affected
  - c) It is the result of a gene mutation on chromosome 5
  - d) Surgical treatment is considered only 1 year after initial presentation
- 469. Which of the following statements are false?**
- a) Duplication of the ureter is found in 3 % of patients.
  - b) Ureterocele is a cystic enlargement of the intramural ureter.
  - c) All ureteroceles must be treated by endoscopic diathermy incision.
  - d) Retrocaval ureter can cause obstructive symptoms.
- 470. Which of the following statements about detrusor instability is false?**
- a) 50 % of men with bladder outflow obstruction have detrusor instability.
  - b) Patients with neurogenic bladder may have detrusor instability.
  - c) Genuine stress incontinence (GSI) is indistinguishable from detrusor instability.
  - d) Urodynamic studies are essential for evaluation of detrusor instability.
- 471. Appropriate treatment of a painless solid testicular mass in a 28-year old man includes which of the following?**
- a) Preoperative CT scan for staging
  - b) Incisional biopsy via scrotal incision
  - c) Incisional biopsy via inguinal incision
  - d) Orchiectomy via a scrotal incision
- 472. A 40-year-old man with a history of alcoholism comes to the emergency department with changes in mental status and scrotal pain. Physical examination reveals a temperature of 39°C and an ecchymotic and exquisitely tender scrotum with palpable crepitus. What are the immediate next steps in management?**
- a) CT of the pelvis to the mid-thigh
  - b) Incision and drainage of the scrotal skin and culture of the retrieved fluid
  - c) Duplex ultrasonography of the scrotum
  - d) Wide debridement of the affected tissues

- 473. Which of the following events is necessary for normal micturation?**
- a) Increase in sympathetic tone to the detrusor resulting in bladder contraction
  - b) Increased activity of cholinergic nerves in the lower urinary tract
  - c) Stimulation of alpha adrenergic receptors at the bladder neck
  - d) Cerebellar coordination of voiding reflex
- 474. General examination from his urologist is non-contributory. A rectal examination reveals hemorrhoids and a left-sided irregular mass in the prostate. Following normal blood tests, he should have which of the following?**
- a) Computed tomography (CT) scan of the pelvis
  - b) Magnetic resonance imaging (MRI) of the prostate
  - c) Colonoscopy and biopsy of the prostate under general anesthetic
  - d) Biopsy of the nodule
- 475. The posteromedial aspect of the kidneys is related to which one of the following structures:**
- a) Psoas muscle
  - b) Ilio-inguinal nerve
  - c) Diaphragm
  - d) Pancreas

**Answer Key**  
**Chapter I : Cardiothoracic**

1- A	36- D	71- A
2- A	37- B	72- B
3- D	38- A	73- D
4- A	39- C	74- D
5- B	40- A	75- A
6- D	41- C	76- D
7- D	42- A	77- C
8- D	43- C	78- B
9- D	44- A	79- D
10- C	45- A	80- A
11- B	46- A	81- C
12- A	47- C	82- D
13- B	48- C	83- D
14- D	49- A	84- B
15- C	50- A	85- D
16- C	51- A	86- C
17- D	52- B	87- D
18- C	53- B	88- D
19- C	54- D	89- D
20- D	55- D	90- D
21- D	56- B	91- B
22- B	57- C	92- D
23- D	58- D	93- B
24- B	59- A	94- D
25- D	60- C	95- D
26- D	61- C	96- C
27- A	62- B	97- D
28- C	63- C	98- D
29- C	64- A	99- A
30- C	65- B	100- C
31- D	66- C	101- D
32- C	67- D	102- C
33- B	68- A	103- A
34- B	69- D	104- C
35- D	70- A	105- C

106- C	142- A
107- C	143- D
108- A	144- A
109- A	145- D
110- B	146- A
111- D	147- D
112- D	148- A
113- D	149- A
114- A	150- C
115- D	151- D
116- D	152- D
117- D	153- C
118- C	154- D
119- A	155- C
120- D	156- A
121- A	157- D
122- D	158- A
123- C	159- D
124- C	160- C
125- C	161- D
126- D	162- B
127- B	
128- D	
129- A	
130- D	
131- A	
132- D	
133- D	
134- B	
135- C	
136- C	
137- D	
138- D	
139- C	
140- A	
141- D	

**Chapter II :Hernia**

1- C	37- A	73- C
2- C	38- B	74- D
3- D	39- A	75- A
4- C	40- B	76- B
5- C	41- A	77- C
6- B	42- D	78- A
7- A	43- D	79- B
8- B	44- D	80- E
9- D	45- A	81- D
10- C	46- D	82- B
11- D	47- A	83- D
12- C	48- C	84- E
13- B	49- B	85- C
14- C	50- C	86- A
15- D	51- B	87- C
16- D	52- A	88- F
17- D	53- C	89- F
18- D	54- D	90- A
19- C	55- D	91- B
20- C	56- C	92- E
21- A	57- B	93- D
22- B	58- C	94- H
23- D	59- C	95- G
24- D	60- C	
25- B	61- A	
26- C	62- C	
27- A	63- D	
28- A	64- D	
29- A	65- C	
30- B	66- D	
31- A	67- A	
32- A	68- D	
33- B	69- A	
34- A	70- D	
35- D	71- D	
36- B	72- D	

### Chapter III: GIT

#### A- Oesophagogastric surgery

- 1- D
- 2- B
- 3- D
- 4- C
- 5- C
- 6- D
- 7- D
- 8- C
- 9- D
- 10- B
- 11- C
- 12- B
- 13- C
- 14- D
- 15- B
- 16- D
- 17- B
- 18- A
- 19- A
- 20- C
- 21- D
- 22- A
- 23- D
- 24- C
- 25- A
- 26- D
- 27- D
- 28- B
- 29- B
- 30- C
- 31- D
- 32- C
- 33- A
- 34- C

- 35- C
- 36- A
- 37- A
- 38- B
- 39- C
- 40- C
- 41- D
- 42- D
- 43- A
- 44- C
- 45- A
- 46- C
- 47- D
- 48- D
- 49- D
- 50- D
- 51- B
- 52- B
- 53- D
- 54- D
- 55- C
- 56- A
- 57- D
- 58- A
- 59- B
- 60- D
- 61- C
- 62- A
- 63- A
- 64- C
- 65- B
- 66- D
- 67- B
- 68- C
- 69- D
- 70- B

- 71- D
- 72- D
- 73- C
- 74- A
- 75- A
- 76- A
- 77- A
- 78- D
- 79- A
- 80- A
- 81- A
- 82- C
- 83- A
- 84- D
- 85- B
- 86- C
- 87- A
- 88- D
- 89- C
- 90- A
- 91- D
- 92- C
- 93- C
- 94- D
- 95- C
- 96- D
- 97- B
- 98- C
- 99- B
- 100- D
- 101- C
- 102- B
- 103- A
- 104- C
- 105- D
- 106- D

107- B  
108- D  
109- D  
110- A  
111- D  
112- A  
113- B  
114- C  
115- D  
116- D  
117- D  
118- D  
119- B  
120- C  
121- A  
122- A  
123- D  
124- C  
125- C  
126- D  
127- D  
128- C  
129- C  
130- A  
131- B  
132- C  
133- B  
134- A  
135- D  
136- D  
137- D  
138- C  
139- A  
140- C  
141- D  
142- C  
143- A  
144- B

145- C  
146- A  
147- D  
148- D  
149- C  
150- B  
151- A  
152- B  
153- C  
154- C  
155- C  
156- B  
157- D  
158- A  
159- B  
160- D  
161- B  
162- C  
163- B  
164- C  
165- D  
166- B  
167- D  
168- A  
169- D  
170- D  
171- C  
172- D  
173- B  
174- D  
175- B  
176- B  
177- B  
178- A  
179- D  
180- C  
181- D  
182- D

183- C  
184- C  
185- B  
186- A  
187- B  
188- B  
189- D

**B- Small bowel**

1- D  
2- D  
3- B  
4- D  
5- C  
6- C  
7- D  
8- C  
9- D  
10- A  
11- B  
12- C  
13- B  
14- C  
15- A  
16- C  
17- D  
18- D  
19- A  
20- D  
21- B  
22- B  
23- D  
24- A  
25- B  
26- D  
27- D  
28- B  
29- B

- 30- C
- 31- A
- 32- B
- 33- D
- 34- C
- 35- A
- 36- D
- 37- D
- 38- D
- 39- D
- 40- B
- 41- C
- 42- D
- 43- D
- 44- C
- 45- D
- 46- B
- 47- D
- 48- D
- 49- C
- 50- A
- 51- A

**C- Appendix**

- 1- A
- 2- A
- 3- C
- 4- B
- 5- D
- 6- C
- 7- C
- 8- D
- 9- D
- 10- A
- 11- A
- 12- D
- 13- B
- 14- C

- 15- D
- 16- B
- 17- D
- 18- D
- 19- D
- 20- D
- 21- D
- 22- D
- 23- D
- 24- D

**D- Colorectal Surgery**

- 1- A
- 2- B
- 3- C
- 4- D
- 5- B
- 6- A
- 7- C
- 8- A
- 9- D
- 10- A
- 11- C
- 12- A
- 13- D
- 14- D
- 15- C
- 16- A
- 17- B
- 18- C
- 19- B
- 20- D
- 21- D
- 22- A
- 23- C
- 24- C
- 25- A
- 26- C

- 27- B
- 28- C
- 29- B
- 30- C
- 31- D
- 32- D
- 33- D
- 34- C
- 35- C
- 36- D
- 37- D
- 38- B
- 39- D
- 40- A
- 41- A
- 42- B
- 43- C
- 44- B
- 45- C
- 46- D
- 47- C
- 48- D
- 49- C
- 50- D
- 51- A
- 52- A
- 53- D
- 54- C
- 55- A
- 56- D
- 57- D
- 58- D
- 59- B
- 60- B
- 61- B
- 62- C
- 63- B
- 64- C



65- C	103- D	141- D
66- D	104- C	142- B
67- D	105- D	143- B
68- D	106- C	144- C
69- A	107- B	145- B
70- A	108- C	146- D
71- B	109- B	147- A
72- D	110- C	148- B
73- C	111- B	149- A
74- C	112- A	150- D
75- B	113- A	151- D
76- C	114- A	152- D
77- D	115- A	153- C
78- B	116- A	154- D
79- D	117- B	155- D
80- D	118- B	156- D
81- A	119- C	157- B
82- A	120- B	158- B
83- A	121- C	159- C
84- A	122- C	160- D
85- A	123- C	161- A
86- D	124- C	162- B
87- A	125- A	163- G
88- B	126- D	164- H
89- D	127- A	165- F
90- D	128- C	166- E
91- D	129- D	167- C
92- A	130- B	
93- B	131- C	<b>E- Hepatobiliary</b>
94- B	132- D	1- D
95- A	133- B	2- B
96- C	134- C	3- A
97- D	135- D	4- D
98- B	136- C	5- D
99- A	137- A	6- D
100- D	138- D	7- A
101- B	139- B	8- D
102- C	140- D	9- B

10- B	48- D	86- A
11- D	49- A	87- C
12- A	50- A	88- D
13- B	51- A	89- C
14- B	52- A	90- A
15- D	53- C	91- C
16- A	54- C	92- A
17- D	55- A	93- D
18- A	56- D	94- A
19- C	57- C	95- C
20- A	58- D	96- C
21- A	59- D	97- B
22- D	60- B	98- A
23- A	61- C	99- C
24- B	62- A	100- A
25- D	63- A	101- C
26- A	64- A	102- B
27- A	65- A	103- B
28- C	66- C	104- D
29- D	67- A	105- D
30- B	68- D	106- A
31- D	69- C	107- C
32- C	70- C	108- B
33- A	71- A	109- D
34- C	72- D	110- D
35- C	73- C	111- A
36- B	74- D	112- A
37- D	75- A	113- D
38- D	76- A	114- D
39- B	77- D	115- B
40- D	78- B	116- B
41- D	79- C	117- D
42- B	80- C	118- A
43- A	81- A	119- A
44- B	82- D	120- B
45- D	83- D	121- C
46- C	84- D	122- C
47- C	85- D	123- A

124- D	161- D	198- B
125- C	162- B	199- A
126- A	163- A	200- D
127- D	164- C	201- A
128- A	165- A	202- C
129- B	166- C	203- C
130- B	167- C	204- C
131- A	168- B	205- A
132- D	169- D	206- D
133- C	170- B	207- C
134- C	171- D	208- D
135- D	172- C	209- C
136- B	173- A	210- D
137- A	174- A	211- B
138- D	175- C	212- C
139- C	176- D	213- A
140- C	177- A	214- A
141- B	178- D	215- B
142- C	179- B	216- D
143- C	180- D	217- D
144- B	181- C	218- E
145- C	182- C	219- A
146- B	183- C	220- C
147- C	184- A	221- B
148- B	185- C	222- D
149- C	186- A	223- A
150- D	187- A	224- C
151- D	188- D	
152- C	189- D	
153- D	190- B	
154- C	191- C	
155- A	192- C	
156- A	193- A	
157- B	194- C	
158- B	195- A	
159- C	196- B	
160- A	197- A	

**Chapter (4): Urosurgery**

1- D	37- D	73- A
2- D	38- D	74- B
3- B	39- B	75- C
4- D	40- D	76- D
5- C	41- C	77- D
6- C	42- D	78- C
7- D	43- A	79- D
8- D	44- D	80- C
9- A	45- D	81- D
10- C	46- C	82- A
11- B	47- C	83- B
12- D	48- A	84- D
13- C	49- C	85- C
14- C	50- C	86- D
15- D	51- B	87- C
16- C	52- B	88- D
17- D	53- B	89- B
18- B	54- D	90- D
19- D	55- C	91- A
20- A	56- D	92- D
21- B	57- D	93- D
22- D	58- A	94- C
23- B	59- D	95- C
24- D	60- C	96- D
25- A	61- B	97- D
26- C	62- B	98- A
27- D	63- D	99- C
28- A	64- B	100- B
29- B	65- D	101- A
30- D	66- D	102- D
31- C	67- D	103- A
32- D	68- B	104- D
33- B	69- D	105- D
34- D	70- B	106- A
35- A	71- D	107- A
36- D	72- D	108- B

109- B	147- B	185- B
110- D	148- C	186- D
111- B	149- D	187- C
112- C	150- D	188- A
113- D	151- A	189- B
114- B	152- D	190- A
115- B	153- A	191- D
116- D	154- C	192- D
117- B	155- C	193- D
118- D	156- B	194- D
119- C	157- C	195- C
120- B	158- D	196- D
121- D	159- D	197- D
122- D	160- A	198- D
123- A	161- C	199- D
124- A	162- D	200- D
125- B	163- C	201- D
126- C	164- D	202- D
127- D	165- C	203- D
128- B	166- C	204- D
129- D	167- A	205- D
130- D	168- A	206- D
131- C	169- B	207- A
132- D	170- B	208- C
133- D	171- C	209- D
134- A	172- D	210- A
135- A	173- B	211- B
136- A	174- D	212- B
137- D	175- D	213- C
138- B	176- B	214- D
139- B	177- B	215- D
140- B	178- A	216- D
141- A	179- D	217- D
142- B	180- B	218- D
143- D	181- C	219- A
144- D	182- D	220- B
145- B	183- B	221- C
146- C	184- A	222- D

223- B	261- D	299- C
224- D	262- D	300- D
225- C	263- C	301- B
226- C	264- B	302- A
227- B	265- D	303- B
228- C	266- D	304- C
229- D	267- D	305- D
230- B	268- B	306- A
231- D	269- D	307- B
232- C	270- C	308- C
233- D	271- A	309- B
234- A	272- D	310- D
235- A	273- C	311- B
236- D	274- D	312- B
237- B	275- B	313- C
238- D	276- D	314- D
239- D	277- C	315- D
240- B	278- A	316- D
241- C	279- C	317- C
242- D	280- D	318- A
243- A	281- A	319- D
244- C	282- D	320- D
245- C	283- B	321- A
246- D	284- D	322- C
247- D	285- A	323- A
248- B	286- B	324- A
249- B	287- D	325- A
250- D	288- D	326- B
251- D	289- D	327- B
252- D	290- D	328- D
253- D	291- D	329- C
254- C	292- C	330- D
255- D	293- D	331- C
256- B	294- D	332- B
257- A	295- D	333- C
258- C	296- B	334- A
259- C	297- B	335- D
260- D	298- A	336- B

337- B	375- C	413- B
338- B	376- B	414- D
339- A	377- B	415- B
340- A	378- B	416- A
341- B	379- C	417- C
342- B	380- C	418- D
343- C	381- B	419- C
344- B	382- D	420- A
345- C	383- C	421- C
346- A	384- B	422- B
347- A	385- D	423- A
348- D	386- D	424- D
349- D	387- C	425- D
350- A	388- B	426- D
351- C	389- B	427- D
352- C	390- B	428- D
353- D	391- C	429- B
354- B	392- B	430- C
355- D	393- B	431- D
356- B	394- A	432- A
357- B	395- B	433- C
358- D	396- A	434- C
359- D	397- D	435- B
360- D	398- D	436- C
361- B	399- B	437- B
362- C	400- D	438- C
363- B	401- D	439- B
364- B	402- B	440- D
365- B	403- A	441- C
366- A	404- D	442- A
367- C	405- B	443- B
368- D	406- D	444- C
369- C	407- C	445- A
370- D	408- A	446- B
371- A	409- D	447- A
372- D	410- A	448- D
373- B	411- B	449- D
374- A	412- C	450- D

451- D  
452- D  
453- D  
454- A  
455- B  
456- C  
457- D  
458- D  
459- C  
460- D  
461- D  
462- C  
463- B  
464- C  
465- B  
466- C  
467- D  
468- C  
469- C  
470- C  
471- A  
472- D  
473- B  
474- D  
475- A